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AN ANALYSIS OF CHANGES IN THE ORGANIZATIONAL
CLIMATES OF SCHOOLS

by

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A THESIS

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ABSTRACT

The main purposes of this study were (1) to determine the stability of the OCDQ measures and categorizations, and (2) to analyse changes that had occurred in the organizational climates of selected Alberta schools. A series of eighteen hypotheses were developed and tested. Four of these were concerned with relationships between the school organizational climates for two consecutive years. Relationships between some characteristics of the schools and principals of the sample were the concern of the next six hypotheses; the last eight hypotheses showed the relationships between the direction and amount of change in organizational climate to other factors or changes in the schools.

The data required for this study were obtained from eighty-eight principals and schools which had participated in both the 1964 and 1965 CSA clinics on organizational climate. Essentially, four statistical procedures--chi square, intercorrelations, analysis of variance, and "t" tests--were used. The findings of these procedures are summarized in the following paragraphs.

The climate classifications and the eight subtest scores for the two years were correlated positively. A trend toward more openness in the organizational climates of the schools in the sample was noted, but not verified statistically. Although the subtest Intimacy changed the most and the subtest Esprit the least over the period of one year, this was only a slight indication (probability at the .10 level of confidence) that some of the subtests change more than others. Finally,

it was found that the scores on the four subtests measuring the teachers' behavior had changed more than the scores on the four subtests measuring the principal's behavior.

Chi square tests were made to determine whether school and principal characteristics, namely, size of school, type of school, age of principal, experience of principal as principal, years of education, and amount of graduate work in educational administration were related to the amount of change in organizational climate. Of these variables, only years of education of the principal was significantly related to amount of change.

There was a direct significant relationship between the tenure of the principals and directional change in only one of the subtests, Hindrance. Also, the direction of change in the subtest Hindrance was negatively related to staff turnover. There was no relationship between the tenure of the principals and the amount of change in the OCDQ subtests. However, staff turnover was positively related to the amount of change in the subtest Disengagement. Upon further analysis, it was found that in large schools an increased amount of change in the subtest Aloofness was related to high staff turnover.

Although there were some interesting activities carried out by the principals as a follow-up to the 1964 climate clinics, none of these activities was significantly related to the amount of change in organizational climate.

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CHAPTER I

INTRODUCTION

Recently Andrews pointed out that one of the most important developments in the study of administration has been the apparent shift of focus from administrative theory to organizational theory.¹ To Andrews, this is not a downgrading of the applied orientation, but merely a change in the strategy of inquiry. This change involves first, a study of the whole organization, and then, the application of this knowledge to the study of administration. Andrews states:

Thus, what began as the somewhat vague "interdisciplinary approach" to administration appears to be converging into a social science in its own right drawing upon the traditions of the existing social sciences for its study of organizational behaviour.²

Since organizational theory is at an early stage of development, the work of Halpin and Croft in constructing an instrument to describe and measure the social interaction between the principal and the teachers, or what has been termed the climate of the school organization, is potentially significant.³

¹John H. M. Andrews, "Some Validity Studies of the OCDQ," University of Alberta, Edmonton (paper given at the conference of the American Educational Research Association, Chicago, February 10, 1965), p. 1.

²Ibid.

³Andrew W. Halpin and Don B. Croft, The Organizational Climate of Schools (Chicago: Midwest Administration Center, The University of Chicago, 1963), p. 7.

The climate of an organization may be related to flexibility. Although an organization needs stability in order to survive, ". . . too much stability can lead to rigidity, and rigidity can mean a fragility resulting in disintegration under the stress caused by disturbances from inside or outside."⁴ Thus, an organization needs flexibility to accommodate these disturbances. Or the ideal, as Stogdill concluded, is the ". . . median range within which flexibility and stability optimize the capacity for survival."⁵

Since we are living in a period of history when rapid change and the ability to adapt are necessary for survival, educational organizations must ultimately change in order to survive. The extent to which the climate of an organization changes within this median range is of interest to organizational leaders. For in the opinion of some writers "organizational leaders should be ready to act to bring about change and not simply to react to forces demanding change."⁶

By means of the Organizational Climate Description Questionnaire, henceforth to be referred to as the OCDQ, a measure of eight dimensions of organizational climate may be obtained. Four of these dimensions are associated with the behavior of the principal. The remaining four

⁴Richard C. Lonsdale, "Maintaining the Organization in Dynamic Equilibrium," Behavioural Science and Educational Administration, pp. 142-177. The Sixty-third Yearbook of the National Society for the Study of Education, Part II (Chicago, Ill.: The University of Chicago Press, 1964), p. 177.

⁵R. M. Stogdill, Individual Behaviour and Group Achievement: A Theory (New York: Oxford University Press, 1959), p. 286.

⁶Lonsdale, op. cit., p. 176.

are measures of the behavior of the staff as a group. These eight measures are combined to produce profiles of organizational climate. It is expected that there may be differences in the type and extent of change in climate which may be attributed to characteristics of the schools. In other words, there may be factors internal to the school, factors related to organizational structure, to group relations, and to leadership acts, which may be related to the way the organization is changing and adapting to its environment. If these relationships can be identified and clarified, then certainly this information would be of value to administrators who may be attempting to develop the kind of organization which will survive in an everchanging environment.

I. PURPOSES OF THE STUDY

The purposes of this study were (1) to analyze the changes that have occurred in the organizational climates of selected Alberta schools, and (2) to determine the stability of OCDQ measures and categorizations.

In order that the major problem could be investigated more clearly, it was broken down into a number of subproblems.

Subproblems

1. How do OCDQ measures for the same school compare in successive years?
 - (a) What are the correlations among the eight subtest scores of the OCDQ for the schools in the two successive years?
 - (b) How stable are climate classifications?

- (c) How much change has occurred in the climates of the schools?
 - (i) Have the more closed climates changed to a greater extent than the more open climates?
 - (ii) Have particular subtest scores changed more than others?
 - (iii) Has the principal's behavior (four subtests) changed more than the teachers' behavior (four subtests)?
- 2. Are certain characteristics of the principal, such as age, years of experience as a principal, years of education, or amount of graduate work in educational administration related to changes in the organizational climate?
- 3. Are certain characteristics of the school, such as size, or type, related to changes in organizational climate?
- 4. Are changes in organizational climates related to other factors or changes in the schools?
 - (a) Is the principal's tenure in the school related to changes in the subtest scores?
 - (b) Is the staff turnover related to changes in the subtests?
 - (c) Is the fact that the principal presented information to his staff on climate characteristics from the 1964 climate clinic related to the amount of change in the organizational climate of the school? Is the amount of time which was used in presenting this information related to the amount of change in the organizational climate of the school?

- (d) Are other activities which the principal may have undertaken in an effort to change the organizational climate of the school related to the amount of change that has taken place?
- (e) Are any changes which the principal attempted to make in his own behavior in order to modify the organizational climate of the school related to changes in the school climates?
- (f) What other factors may have influenced the organizational climates of the schools?

II. SIGNIFICANCE OF THE PROBLEM

Currently there are some eleven studies underway or recently completed at the Universities of Alberta, Calgary or Edmonton, which have employed the OCDQ as a measuring device.⁷ No doubt other investigations using this instrument are being conducted in similar institutions in other parts of Canada and the United States. Very few, if any, of these studies have been concerned with the stability of the instrument. Therefore, with the current interest and use of the OCDQ, it is important that evidence concerning the stability of the questionnaire be established.

Although Halpin and Croft performed three types of reliability

⁷For information concerning these studies, the reader may refer to the Appendix B of the C.S.A. Bulletin, The Organizational Climate of Alberta Schools: A Symposium, XIV:5 (July, 1965), 86-87.

estimates on each of the subtests, they did not use the more rigorous procedure of administering the test on two separate occasions.

It seemed that a study analysing the factors associated with the changes in organizational climates of schools, and at the same time, reporting on the stability of the OCDQ, would be a significant contribution to the study of school administration.

III. ASSUMPTIONS

Basic to this study is the assumption that the OCDQ and the Principal's Questionnaires gave valid and accurate measurements of the variables being studied. A second assumption is that other factors, such as the conditions under which the questionnaires were given, were the same for both years, and did not influence the change in measurements.

IV. DELIMITATIONS

Only Alberta schools that volunteered to participate in both the 1964 and 1965 Council on School Administration Clinics on Organizational Climate, and whose principals completed and returned both Principal's Questionnaires were included in this study.⁸

⁸These clinics were sponsored jointly by the Council on School Administration of the Alberta Teachers' Association and the Department of Educational Administration of the University of Alberta, Edmonton.

V. LIMITATIONS

1. There are limitations imposed upon this study which are inherent in the measuring instruments used. This may limit the extent to which the results may be generalized and also their validity. For example, Organizational Climate, as measured by the OCDQ, is limited to the social interaction between the principal and the teachers.⁹ Also, the authors themselves feel that the OCDQ is a "tentative" way of describing the organizational climate of a school.¹⁰

2. The identification of the dimensions of the OCDQ is based on a taxonomy which is heuristic in nature. Andrews found that there was a lack of relationship of the subtest Consideration between the OCDQ and the LBDQ. On analysis, Andrews states that the subtest Consideration on the OCDQ stresses personal assistance while its counterpart on the LBDQ focuses on non-authoritarianism. However, he concludes that, ". . .in general the number of meaningful relationships is reassuring with respect to both."¹¹

3. The responses to the questionnaires are limited to the respondents' perceptions of the phenomena involved in this study.

VI. DEFINITION OF TERMS

Organizational Climate refers to the social interaction between

⁹Halpin and Croft, op. cit., p. 7. ¹⁰Ibid., p. 11.

¹¹Andrews, op. cit., p. 24.

the principal and the teachers as measured by the OCDQ.

Dimensions of Organizational Climate are the following eight subtests of the OCDQ. The first four: (1) Disengagement, (2) Hindrance, (3) Esprit, and (4) Intimacy, measure the teachers' behavior. The last four: (5) Aloofness, (6) Production Emphasis, (7) Thrust, and (8) Consideration, refer to the principal's behavior. These subtests are further defined in Chapter III.

Amount of Change is the sum of the absolute differences of the eight subtest scores of the OCDQ between 1964 and 1965.

Direction of Change refers to an increase or decrease in the score for a particular subtest between 1964 and 1965.

VII. ORGANIZATION OF THE THESIS

The present chapter introduces the study and presents the problems investigated; the remainder of the thesis is organized as follows. A review of some of the research related to organizational climate and change is presented in Chapter II. Chapter III provides a description and discussion of the instruments used in this study, an outline of the methodology employed and a description of the samples used. The next chapter, Chapter IV, briefly describes the treatment of the data collected and a summary of the statistical tests applied. An account of the procedures employed in the analysis of the data, the results of the statistical treatments applied, and discussion of the significance of these results, are presented in Chapter V. The thesis concludes in Chapter VI with the summary, conclusions, implications and recommendations.

CHAPTER II

RELATED LITERATURE

Schools, like all organizations, must change and adapt in order to survive. One of the purposes of this study is to analyse changes that have occurred in the organizational climates of schools. In order to elucidate this purpose further and to provide background information, the related literature has been reviewed from the following points of view: first, What is organizational climate? What are some of the earlier attempts to develop this concept? What are some of the more recent studies that have lead to the development of the OCDQ? To what extent has the OCDQ been used as a research tool? Second: Since there is no "theory" per se of organizational change, this section will use part of a recently developed descriptive taxonomy on innovation research and theory. Such questions as, "What are the characteristics of innovators and change agents?" and, "In what kind of organizations do they work?" may be partially answered by such a taxonomy.

I. ORGANIZATIONAL CLIMATE

Morale and Climate

Cattell appears to have been one of the first investigators to draw attention to the need for research into group characteristics and

to develop the concept of group syntality.¹ He defines syntality as the attributes of the group as a group, i.e., as an integrated whole.² However, his attempts at using factorial methods for establishing various group dimensions so far have been of little importance.

Hemphill developed an instrument, "The Group Dimensions Descriptions Questionnaire," to provide a method for describing the differences among groups.³ This instrument yields scores on thirteen group dimensions, such as: Autonomy, the degree to which the group functions independently of other groups; Flexibility, the degree to which a group's activities are marked by informal procedures rather than by adherence to established procedures; Hedonic tone, the degree to which group membership is accompanied by a general feeling of pleasantness or agreeableness; Intimacy, the degree to which members of a group are mutually acquainted with one another; Viscosity, the degree to which members of the group function as a unit. Hemphill found that there was evidence that several characteristics of work groups did relate to job satisfaction and productivity. Other studies showed that the behavior of a leader can affect some of the dimensions, particularly viscosity, the degree of cohesion, and hedonic tone, the degree of satisfaction of

¹R. B. Cattell, D. R. Saunders, and G. F. Stice, "The Dimensions of Syntality in Small Groups," Human Relations, VI:4 (1953), 331-356.

²Ibid., p. 333.

³J. K. Hemphill, Group Dimensions: A Manual for Their Measurement (Research Monograph No. 87. Columbus, Ohio: The Ohio State University, 1956), p. 1.

group members. Using the above questionnaire, Morris found significant relationships between principal leadership and staff characteristics. For example, he found that high principal Initiating Structure is related to low Flexibility, Permeability, and Stability on the staffs.⁴

In 1955 Cornell defined organizational climate as ". . . a delicate blending of interpretations (or perceptions as social psychologists would call it) by persons in the organization of their jobs or roles in relationship to others in the organization."⁵ His studies included the following variables of organizational climate:

1. A "teacher morale" measure, a measure of satisfaction of teachers with their relationships to the organization.
2. The extent to which teachers expect administration to share in the decision making.
3. The extent to which teachers feel that they are given responsibility when they participate in policy making.
4. The extent to which teachers feel that their contribution to policy making is taken into account in final decisions.
5. The extent to which teachers interact directly with administrative personnel with respect to general school problems.⁶

Cornell found that participation in policy making stood high in

⁴Derek V. Morris, "Staff Characteristics and Principal Leadership" (unpublished Master's thesis, The University of Alberta, Edmonton, 1963).

⁵Francis G. Cornell, "Socially Perceptive Administration," Phi Delta Kappan, XXXVI:6 (March, 1955), 222.

⁶Ibid., p. 220.

predicting operations in the classroom and that the most direct measure of organizational climate was the morale variable. In fact, the first two measures of organizational climate, satisfaction of teachers with their relationships to the organization (morale), and the extent to which teachers expect to share in administration and policy making were found to be more important than the measure of the actual amount by which teachers participated in the administration of the school. He emphasizes that the teacher, or personal variable, is of great importance since some of the teachers perform effectively regardless of the organizational climate. However, those teachers most aggravated by the lack of opportunity to participate in policy making were those above average in professional attitude. Cornell concludes that, "A genuinely harmonious administrative structure is not discernable by words or deeds alone but also by feelings, sentiments, perceptions, and expectations of the organization."⁷

Many morale studies have followed this one in an attempt to get at the "climate" of a particular social unit. They have all faced the same recurring problem of determining the dimensions along which morale varies. For example, Keeler, using an instrument measuring inductiveness and cohesiveness, found that this instrument was not as valid for determining morale as he had hoped.⁸

⁷Ibid., p. 223.

⁸B. T. Keeler and J. H. M. Andrews, "The Leader Behaviour of Principals, Staff Morale and Productivity," The Alberta Journal of Educational Research, IX (September, 1963), 179-91.

The complexity of interpersonal relationships in formal organizations has been noted by Argyris.⁹ In a study of a bank, Argyris was able to identify three systems of variables: (1) the formal policies, procedures, and positions in the organization; (2) the personal variable or personality factors, including the needs, values, and abilities of the individual; and (3) the informal or group variables that have arisen out of the individuals' attempts to adjust to the formal organization. To Argyris, these variables interact to form a complex reciprocal network that tends to maintain itself. This homeostatic state was referred to as "organizational climate."¹⁰

With the apparent shift, noted by Andrews, in the strategy of inquiry from administrative theory to organizational theory, there has been a renewed interest in this concept of organizational climate.¹¹

Lonsdale mentions two recent studies evaluating aspects of organizational climate. First, Mathews, in a study of nine western hospitals, measured five dimensions of administrative climate, (decision making, leadership, goal integration, influence and personal relations).¹² These dimensions were arranged on a continuum ranging from a

⁹Chris Argyris, "Some Problems in Conceptualizing Organizational Climate: A Case Study of a Bank," Administrative Science Quarterly, II (1958), 501-20.

¹⁰Ibid., p. 516.

¹¹J. H. M. Andrews, "Some Validity Studies of the OCDQ" (paper delivered at the Conference of the American Educational Research Association, Chicago, February 10, 1965), p. 1.

¹²B. Phelps Mathews, "Inconsistency: A Complex Problem in Administration," Hospital Administration, VII (Fall, 1962), 21-35, cited in Richard C. Lonsdale, "Maintaining the Organization in Dynamic

social philosophy of administration to a technological philosophy of administration. She found contradictions in the administrative philosophies of these hospitals and a significant correlation between the tenure of the nurses and the degree of philosophic contradiction. Hospitals arrayed near the middle of the continuum, a position reflecting philosophic contradictions, had lower tenure among the nurses than hospitals at either end of the continuum, in positions of clear social and technological orientation. In a second study mentioned by Lonsdale, Stern and his associates developed the "Activities Index" and the "College Characteristics Index" (CCI).¹³ They have used these instruments to measure the pressive aspects of organizational climate of a number of colleges and universities. In a study of sixty-nine of these institutions, they found that the main source of diversity was the level of intellectual press. Using role theory in relation to needs satisfaction, Lonsdale traced the development of the concept of organizational climate from both of these dimensions.¹⁴ He defined organizational climate ". . . as the global assessment of the interaction of the task-achievement dimension and the needs satisfaction dimension within the organization, or in other words, of the extent of the task-

Equilibrium," Behavioural Science and Education Administration, pp. 142-177. The Sixty-third Yearbook of the National Society for the Study of Education, Part II (Chicago: The University of Chicago Press, 1964), p. 168.

¹³George G. Stern, "Characteristics of the Intellectual Climate in College Environments," Harvard Educational Review, XXXI (Winter, 1963), 5-41; cited in Lonsdale, op. cit., p. 169.

¹⁴Ibid., pp. 149-66.

needs integration."¹⁵

Organizational Climate Description Questionnaire

Organizational Climate, as defined by Halpin and Croft and measured by the OCDQ, refers exclusively to the social interaction between the principal and the teacher, that is, to the social component of the organizational climate.¹⁶ They suggested that organizational climate can be construed as the organizational "personality" of a school; figuratively, "personality" is to the individual what "climate" is to the organization.¹⁷ The details of the development of the OCDQ are presented in Chapter III.

In the opinion of Miklos:

. . .The climate of an organization refers to the characteristics of certain social relationships which exist among the members of an organization and between the total organization and its participants. To the extent that it attempts to circumscribe the characteristic state of such internal processes as the attitudes, interactions, and other behaviours of members of the organization, it may be said to refer to the "personality" of the organization.¹⁸

Further to this, Miklos says that the concept is similar to that of morale but differs from this in that it is more inclusive.¹⁹ Also

¹⁵Ibid., p. 166.

¹⁶Andrew W. Halpin and Don B. Croft, The Organizational Climate of Schools (Chicago: Midwest Administration Center, University of Chicago, 1963), p. 7.

¹⁷Ibid., p. 1.

¹⁸E. Miklos, "School Climate and Program Development," The Canadian Administrator, IV:7 (University of Alberta, Edmonton, April, 1965), 25.

¹⁹Ibid.

it is relevant to note here a further comment by Miklos:

The particularly interesting features of the work done by Halpin and Croft is that it not only extends considerably related work on group climates in other fields, but it does this specifically in the field of educational administration. The research has provided us with some concepts and categories for conceptualizing organizational climate of schools and, in addition to this, has yielded an instrument for quantifying this aspect of an organization.²⁰

Although there has been an increased interest in the use of this instrument, very little research is reported in the literature.²¹

Feldvebel defined organizational climate ". . . as patterns of social interaction that characterize an organization."²² He investigated the relationship between organizational climate and the socio-economic status of the school community.²³ He also tested the hypothesis that output of the school, as measured by standard achievement tests, was a function of the organizational climate as well as of the socio-economic status of the school community. He found that the characteristics of the principal's behavior, as measured by the subtests Hindrance and Consideration of the OCDQ, were significantly associated with the social class of the community. Secondly, that Production Emphasis and Consideration were significantly associated with pupil achievement. This

²⁰E. Miklos, "Organizational Climate: The Concept and the Instrument" (paper read to the Council on School Administration Clinics on Organizational Climate, Edmonton March 20, 1965 and Calgary, March 27, 1965), p. 5.

²¹Currently there are some eleven studies underway, using the OCDQ as a research tool, at the University of Alberta, Edmonton and Calgary.

²²Alexander M. Feldvebel, "Organizational Climate, Social Class and Educational Output," Administrator's Notebook, XII:8 (April, 1964).

²³Ibid.

latter relationship, he reports ". . . tends to reinforce a belief in the significance of the leadership role in organizational goal attainment."²⁴

Recently at the University of Alberta, Plaxton analysed relationships between the personality of the principal, as measured by the Myers-Briggs Type Indicator (MBTI), and the OCDQ.²⁵ Although he found no overall relationships between the principal's personality type and climate, he did find a number of significant relationships between personality and the OCDQ subtest scores. Significant F ratios were found across the eleven personality types for all the OCDQ subtests except Production Emphasis. Schmidt related OCDQ subtest scores to the twelve subtest scores of the LBDQ.²⁶ With the exception of a negative relationship between Superior Orientation and Hindrance, the significant relationships were as would be expected. This study did show a lack of relationship between the subtests both named Consideration. On analysis it was found that "the OCDQ Consideration stresses personal assistance whereas the LBDQ Consideration focuses upon non-authoritarianism."²⁷

Andrews found a strong positive relationship between Teacher Satisfaction and Climate (assuming order from Open to Closed) with an

²⁴Ibid.

²⁵Robert P. Plaxton, "Relationships Between Principal's Personality and the Organizational Climate of Their Schools" (unpublished Master's thesis, University of Alberta, Edmonton, 1965).

²⁶Werner G. Schmidt, "Relationship between Certain Aspects of Teacher Behaviour and Organizational Climate" (Master's thesis in preparation, University of Alberta, Edmonton).

²⁷Ibid., p. 24.

even stronger positive relationship to Esprit.²⁸ The rated principal effectiveness was so highly correlated with the scores on the subtest Thrust that the two measures were virtually interchangeable. Teachers' ratings of school effectiveness were correlated positively with Esprit and Climate and negatively with Disengagement as would be expected. Also, he found no significant relationship between climate and school achievement. The two approaches to motivating teachers, Thrust and Production Emphasis, did not relate significantly to school achievement. Andrews states: ". . .the high relationship with Intimacy makes it appear that teachers are motivated more by the group than the leader."²⁹

To administrators interested in developing a desirable climate for effective program development, Miklos suggests five important prerequisites or organizational climate characteristics which must exist within a school in order for program development to reach an adequate level.³⁰ They are: (1) minimum individual organizational conflict; (2) release of creative potential; (3) effective group problem solving; (4) adaptability and readiness for change; and (5) effective leadership. He hypothesizes that certain types of climates, i.e., the more open climates, are more conducive than others in the meeting of these prerequisites. This relationship may lead to a virtuous cycle whereby

. . .An appropriate school climate leads to a high level of instructional improvement which in turn contributes further to improvements in school climate; the cycle might just as well start with adequate program development leading to improvements

²⁸Andrews, op. cit., pp. 25-34. ²⁹Ibid., p. 34.

³⁰Miklos, "School Climate and Program Development," op. cit., pp. 25-28.

in school climate.³¹

To Miklos, the task of the administrator is to discover ways and means to initiate this cycle in his particular school.

Finally, Brown views organizational climate as ". . .the cathetic patterns giving identity to sub-group and interpersonal relations in a living organization."³² These cathetic patterns or forces are changing (growth-centered model) and are being changed (clinical model). Brown stresses the interrelationship of organizational climate and change when he states: ". . .it is not possible to talk organizational climate apart from change."³³ It is likely that the quality and rate of change will be determined to a large degree by the nature of the climate within the organization. Similarly, the climate will be influenced by the individuals and the organizational setting in which they function. The following section includes a review of some of the characteristics of innovative personnel and some of the literature related to the organization as a setting for innovation.

II. ORGANIZATIONAL CHANGE

Worth cites a recent article which summarizes the rapid increase in the pace of change as follows:

Never before have the dynamic forces of change worked with such incredible speed. Man is advancing so rapidly in knowledge and

³¹Ibid., p. 28.

³²Alan Brown, "Changing Climate" (paper read to the Council on School Administration Clinics on Organizational Climate, Edmonton, March 20, 1965 and Calgary, March 27, 1965), p. 4.

³³Ibid., p. 3.

technology that new developments confront us before old ones are fully understood. As an illustration it has been estimated that if we plot the accumulation of knowledge on a historical continuum, beginning with the birth of Christ, the first doubling of knowledge occurs in 1750; the second in 1900; the third fifty years later in 1950; and the fourth only ten years after the third in 1960.³⁴

Along with this rapid increase in the pace of change there is a realization that organizations must change in order to survive and achieve their goals. For as Bennis and others mention, ". . .we are beyond debating the inevitability of change; most students of our society agree that the one major invariant is the tendency toward movement, growth, development, process: change."³⁵ Then the questions become (1) How do organizations change? and (2) What factors influence change in organizations?

Organizations change in many ways. Some of this change may be called "organizational drift." Changes in size, maturation, and from succession of people through key offices which frequently go unnoticed, are changes of this nature. However, in addition to this type of change, there is "planned change" which comes about by design or deliberate plan.³⁶ By having goals to be achieved and means of achieving

³⁴O. Sand and R. I. Miller, "Perspectives on National Studies in the Disciplines," Journal of Secondary Education, XXXVIII (January, 1964), 27-31, cited in Walter H. Worth, "Developing the School Program," The Canadian Administrator, III:1 (January, 1964), 13.

³⁵W. G. Bennis, K. D. Benne, and R. Chin, The Planning of Change: Readings in the Applied Behavioural Sciences (New York: Holt, Rinehart and Winston, 1961), p. 1.

³⁶R. O. Carlson and others, Change Processes in the Public Schools (Eugene: Center for the Advanced Study of Educational Administration, University of Oregon Press, 1965), from the foreword.

these goals, organizations strive for survival and seem constantly to be proposing and carrying out change plans. Bennis and others,³⁷ and Lippit and others,³⁸ have stressed this latter type of change.

In a recent paper designed to report on the present status of innovation research and theory, Bhola states:

Meaningful organization of research findings and conceptualizations also offers problems. No worthwhile taxonomy in the area of innovation is available for us. Even a descriptive taxonomy which is a desperate need in this field, is unavailable. In an area where the nature of innovation itself is not well defined and where innovation is used synonymously with improvement, creative-problem-solving adaptiveness for efficiency invention, or innovative-inventive stance, useful categorizations will require considerable amount of cobweb cleaning and hard work spread over many years.³⁹

To organize his review of the research and theory in a meaningful way, Bhola presents a tentative descriptive taxonomy based on the content of questions that might be raised around five themes. The five themes are: (1) philosophic considerations; (2) content of innovations; (3) nature of inventors, innovators, and adopters; (4) process and tactics of diffusion; and (5) measurement and evaluation.⁴⁰

Guided by this taxonomy, a discussion of the more pertinent research findings in the area concerned with the nature of innovators,

³⁷Bennis, et al., op. cit., p. 3.

³⁸R. Lippit, J. Watson, and B. Westly, The Dynamics of Planned Change (New York: Harcourt, Brace, 1958).

³⁹H. S. Bhola, Innovation. Research and Theory (Columbus: Ohio State University, 1965), p. 2.

⁴⁰Ibid., pp. 2-4.

adopters, change agents and the organizational setting in which they function will be presented. In this area, questions may be asked about persons, or groups or organizations involved in the process of innovation and innovation diffusion. What is the nature of innovators and change agents? What are some of their characteristics? In what kind of social systems or organizations do they work? Are there organizational factors related to changes or principal characteristics that enable him to change the climate?

Since individuals and organizations show different characteristics, they will be discussed separately. However, it needs to be emphasized that the effectiveness of innovators and adopters is the result of an interaction between the personality characteristics, social environment, status hierarchy, and many other factors.

Characteristics of Innovators

Bhola discovered that the area concerned with individuals as innovators and adopters, was found wanting in theoretical sophistication with very few explanatory models.⁴¹ Also, there is a great deal of confusion in the nomenclature. Some of the terms which have been used synonymously and differentially are: inventor, innovator, first adopter, change agent, discoverer, doner, advocate, promulgator, and others. Bhola suggests that the innovator and adopter role has been the most researched.⁴²

Traditionally, much of the research with innovators (or early

⁴¹Ibid., p. 21.

⁴²Ibid.

adopters) has been carried out in rural sociology. Rogers uses the word innovator synonymously with early adopter and suggests five adopter categories: (1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) laggards.⁴³

Recently the research in rural sociology concerned with innovators has been applied to school administrators. Gallaher distinguishes between the term innovators, which he reserves for the individual or agency responsible for the conception of an innovation, and advocate, which refers to those who sponsor an innovation for the express purpose of gaining its acceptance by others.⁴⁴ The term change agent is reserved for analysts, or specialists who work with actual adopters. Two types of advocates are identified: (1) the pragmatic advocate, who views growth as generated from within the system and is concerned mainly with creating a climate conducive to acceptance without manipulation, and (2) the utopic advocate, who focuses exclusively on the act of acceptance and, if necessary, manipulates to achieve adoption. To Gallaher, the pragmatic model is the best for achieving genuine change as it is based on complete and detailed knowledge of the target system.

However, Gallaher sees the school administrator as the "man in

⁴³Everett M. Rogers, Diffusion of Innovations (New York: The Free Press of Glencoe, 1962), pp. 168-72.

⁴⁴Art Gallaher, Jr., "Directed Change in Formal Organizations: The School System," Change Processes in the Public Schools (Eugene: Center for the Advanced Study of Educational Administration, 1965), pp. 37-51.

the middle."⁴⁵ His role is a balancing one in maintaining a working equilibrium between antagonistically co-operative forces. If the administrator assumes an advocacy role he might reduce his balancing role effectiveness. Therefore, Gallaher asserts that the problems of educational change do not rest mainly with the administrator. To alleviate this conflict of roles, he suggests the creation of an educational extension service with a research program focused on creating alternatives and an action program to prepare change agents to assist school systems with innovation, dissemination, and integration problems.⁴⁶

In a study concerned with the adoption by superintendents of three educational innovations, modern mathematics, team teaching, and programmed instruction, Carlson reported that the first adopters or innovators had a tendency to: (1) be younger, (2) know well fewer of their peers, (3) be sought less often for advice, (4) receive higher professional ratings, (5) exhibit greater accuracy in the judgment of their rates of adoption of innovations, (6) have shorter tenure in their present positions, and (7) seek advice and information from more persons outside the local area.⁴⁷

Further to this, Carlson asserted that these innovators, in so far as they received high professionalism ratings from their peers and were chosen as friends with average frequency, were not true deviant

⁴⁵Ibid., p. 49.

⁴⁶Ibid., p. 51.

⁴⁷R. O. Carlson, Adoption of Educational Innovations (Eugene: The Center for the Advanced Study of Educational Administration, 1965), p. 65.

types.⁴⁸ He found that the first adopters of the three new educational practices, like other innovators who have been studied, tended not to be beyond middle age and compared to non-innovators, more frequently utilized sources outside their immediate locality for advice and information.⁴⁹

In another study, Carlson found a greater inclination toward effecting organizational change on the part of "career-bound" than "place-bound" superintendents of schools.⁵⁰

Rogers summarizes the general characteristics of innovators as follows: (1) innovators generally are young; (2) innovators have relatively high social status, in terms of amount of education, prestige ratings, and income; (3) impersonal and cosmopolite sources of information are important to innovators; (4) innovators are cosmopolite; (5) innovators exert opinion leadership; and (6) innovators are likely to be viewed as deviants by their peers and by themselves.⁵¹

With these innovator characteristics in mind, Rogers suggests that school administrators could perhaps promote innovation by emphasizing with the community the benefits of educational innovation; by employing young cosmopolite teachers; by sending teaching staff to out-of-town professional meetings and workshops, and by consciously

⁴⁸Ibid. ⁴⁹Ibid., p. 66.

⁵⁰Richard O. Carlson, Executive Succession and Organizational Change: Place-Bound and Career-Bound Superintendents of Schools (Chicago: Midwest Administration Center, 1962), p. 81.

⁵¹E. M. Rogers, "What are Innovators Like," Change Processes in the Public Schools (Eugene: Center for the Advanced Study of Educational Administration, University of Oregon Press, 1965), pp. 58-59.

taking up for themselves the innovative roles of change agents.⁵²

Although the "change agent" as a person has received much less attention than innovators or adopters, the importance of his role has been fully realized both with individual adopters and in the context of organizations. Rogers defines the change agent as ". . . a professional person who attempts to influence adoption decisions in a direction that he feels desirable."⁵³ He mentions a dual role of the change agent, as both an opponent of non-recommended innovations and a promoter of recommended ideas. He goes on to say that almost every area of public concern has at least one type of change agent. Examples of various types of change agents are: technical assistance workers in less developed countries, county extension agents, detail men who promote medical drugs with physicians, salesmen and dealers of new products, public health officers, nurses, medical doctors, and school administrators and teachers.

Some authors prefer to make a distinction between internal and external change agents. Lippitt and others see the change agent as a "free" agent from outside the client system; a person or team brought in to the system to help.⁵⁴ Benne and others feel that this is too narrow a view.⁵⁵ The reasons they give for this statement are:

⁵²Ibid., pp. 60-61.

⁵³Everett M. Rogers, "The Role of the Change Agent and the Consequences of Innovation," Diffusion of Innovations (New York: Free Press, 1962), p. 254.

⁵⁴Bennis, op. cit., p. 16.

⁵⁵Ibid.

client-systems, or the parties who ask for help and desire some change in performance, contain the potential resources for creating their own planned change programs under certain conditions and in order for it to adapt to a continually changing environment, a client-system must build into its own structures a vigorous change agent function. Lippitt and his colleagues seem to neglect the social and moral involvement of the change agent in his own social system. Benne and others prefer intersystem models for explaining planned change and view the change agent as any agent used by a client-system to help bring about improved performance.⁵⁶

Cunningham refers to the principal as an internal change agent.⁵⁷ By internal, he means those changes which are energized from within local systems. On the other hand, Brown suggests a dual approach for the principal as a change agent. He states:

The principal's vantage point taken up in formulating local policy or procedure changes along a continuum from "internal" to "external." His location of being "geographically internal" to the school and its day by day successes and crises gives him certain advantages. To some degree, however, his hierarchial location makes him "systematically external" to much of the organization and this, too, may be used to his advantage.⁵⁸

⁵⁶Ibid., p. 17.

⁵⁷L. L. Cunningham, "A Theory of Change," Educational Change: Problems and Prospects (papers delivered at the 1964 Conference on the Canadian High School (eds.) R. Wardhaugh and J. W. G. Ivany, The University of Alberta, Edmonton, 1964).

⁵⁸Brown, op. cit., p. 27.

Characteristics of Adaptive Organizations

In recent years many important developments in organizational theory have been reported, particularly in the area of industrial and business organizations.⁵⁹ With the establishment of the University Council for Educational Administration in the early 1950's, the study of the school as an organization began in earnest. However, it is only in the last few years that investigators such as Halpin⁶⁰ and Griffiths⁶¹ and others have brought current developments of organizational theory to the attention of educators and educational administrators.

The concept of organizational health has received a great deal of attention. Healthy organizations are hypothesized to be open systems which are adaptive to responses and susceptible to change and innovation adoption. Miles postulates the following as prerequisites for organizational health: goal appropriateness; communication adequacy and power equalization; resource utilization, cohesiveness and morale; innovativeness, autonomy adaptation, and problem solving adequacy.⁶² However, Miles feels that educational systems have special

⁵⁹M. Haire, Modern Organizational Theory (New York: Wiley, 1959); Rensis Likert, New Patterns of Management (New York: McGraw-Hill, 1961); J. G. March and H. A. Simon, Organizations (New York: Wiley, 1958); A. Etzioni, A Comparative Analysis of Complex Organizations, (Glencoe, Ill: Free Press, 1961), cited in H. S. Bhola, Innovation Research and Theory (Columbus: Ohio State University, 1965), p. 28.

⁶⁰A. W. Halpin (ed.), Administrative Theory in Education (Chicago: Midwest Administration Center, University of Chicago, 1958).

⁶¹D. E. Griffiths, Administrative Theory (New York: Appleton-Century-Crofts, 1959).

⁶²Mathew B. Miles, "Planned Change and Organizational Health: Figure and Ground," Change Processes in the Public Schools, op. cit., pp. 11-34.

properties which condition the proposition of organizational theory in predictable ways.⁶³ He outlines seven ways in which educational organization and the public school depart from the generalized model of organizational health. In summary he states:

. . .The major difficulties to be expected in most public schools would center around goal focus (as a consequence of goal ambiguity), difficulties in communication adequacy and power equalization stemming from low interdependence; and perhaps most centrally, failures in innovativeness, autonomy, adaptation, and problem-solving adequacy, because of vulnerability and lay-professional conflict.⁶⁴

Three major areas of organizational interest: (1) task accomplishment, (2) internal integration, and (3) mutual adaptation of the organization, are analysed by Argyris.⁶⁵ In each area he suggests some specific requirements for organizational health. In task accomplishment area a healthy organization is required to have: (1) clear, accepted, achievable, appropriate goals; (2) undistorted vertical and horizontal communication flow; (3) optimal power equalization; and (4) collaborative styles of influence. For internal integration organizational health is marked by: (1) resource utilization with no "nomothetic and ideographic" conflict; (2) a degree of cohesiveness; and (3) good morale. For growth and adaptation, organizational health demands: (1) innovativeness, (2) autonomy, (3) adaptation, and (4) problem solving adequacy.

⁶³Ibid., p. 22. ⁶⁴Ibid., p. 27.

⁶⁵C. Argyris, Integrating the Individual and the Organization (New York: Wiley, 1964).

Carlson identifies the public schools as "domesticated" organizations as compared to business firms which he terms "wild."⁶⁶ These terms are analogous to "domesticated" and "wild" organisms. However, his intentions are not to say that organisms and organizations are alike ". . .but that what is known about organisms under specified conditions and their responses to environments is helpful in making propositions about responses of certain organizations to their environments."⁶⁷

This leads to the proposition that domesticated organizations are slower to change and adopt than are wild organizations. Also, the propositions that domesticated organizations exhibit the mechanisms of "segregation" and "professional treatment" in their organization-client relationships.

He argues that these mechanisms are adaptive,

. . .That they enable the protection of the valued resources of the organization, and therefore, are functional in goal achievement. In the case of the public school, this means that segregating certain students protects teaching time by removing from the main stream the disruptive elements of unselected clients. And, giving partial treatment to some students protects teaching time in the sense that it channels teaching time and professional attention in general to those students for which the school is geared to supply the most adequate service. Together, these mechanisms facilitate the fulfillment of the goals to which the school commits itself.⁶⁸

Using Carlson's description of the school as a domesticated service

⁶⁶Richard O. Carlson, "Environmental Constraints and Organizational Consequences: The Public School and Its Clients," Behavioural Science and Educational Administration, The Sixty-third Yearbook of the National Society for the Study of Education, Part II (Chicago: University of Chicago Press, 1964), pp. 262-76.

⁶⁷Ibid., p. 267.

⁶⁸Ibid., pp. 272-73.

organization, Willower identifies control as central to organizations in public schools and hypothesizes that teachers and school personnel most directly concerned with pupil control will resist change to a greater degree than specialized personnel like guidance counsellors.⁶⁹ Support for this hypothesis was found in a study in a junior high school.⁷⁰

Different reasons for resistance to innovation in organizations have been analysed, among them: rapidity of change superimposed by authority from above;⁷¹ lack of involvement from below;⁷² disturbance of the status structure;⁷³ accrurement of benefits to one part of the organization at the expense of other parts;⁷⁴ and exhaustion through implementing the first phase of introducing change, etc.⁷⁵ Along with these are modes of expressing resistance to change within organizations, such as: harrassment of the innovator by frequent references to an earlier manager or principal;⁷⁶ sloppy work or apathetic indifference;⁷⁷

⁶⁹Donald J. Willower, "Barriers to Change in Educational Organization," Theory Into Practice, II:5 (December, 1963), 257-63.

⁷⁰D. J. Willower and Ronald G. Jones, "When Pupil Control Becomes an Institutional Theme," Phi Delta Kappan, XLV (November, 1963), 107-09.

⁷¹Likert, op. cit., p. 246.

⁷²Robert H. Guest, Organizational Change: The Effect of Successful Leadership (Homewood, Ill.: Dorsey Press, Inc., 1962), p. 153.

⁷³Peter M. Blau and W. Richard Scott, Formal Organizations (San Francisco: Chandler Publishing Co., 1962), p. 100.

⁷⁴Lippit, Watson and Westley, op. cit., p. 82. ⁷⁵Ibid., pp. 85-86.

⁷⁶Alvin W. Gouldner, Patterns of Industrial Bureaucracy (Glencoe, Ill.: Free Press, 1954), pp. 79-83.

⁷⁷Alvin Zander, "Resistance to Change--Its Analysis and Prevention," The Planning of Change (New York: Holt, Rinehart and Winston, 1961), p. 544.

or ritualistic acceptance of the new method making everything fall into chaos.

III. SUMMARY OF CHAPTER II

The first section of this chapter dealt with studies concerned with the development of the concept of organizational climate, the OCDQ as a research tool and current reports in the literature on the use of this instrument. From the studies reported here and studies presently in progress, this instrument appears to be a valuable research tool which has already contributed to our understanding of school organizations. However, like all new research instruments, a considerable amount of data is required to substantiate its validity and reliability. In fact, the authors, themselves, are waiting for the accumulation of this data.

In the second section of this chapter, Bhola's descriptive taxonomy on innovation and research theory was employed as a guide to arrange the literature related to one section of organizational change. It was pointed out that in the area of individuals as adopters and innovators, there is confusion in the nomenclature. However, an attempt was made to define the terms innovator, advocate and change agent and to describe some of the characteristics of those personnel. In addition, some of the literature related to the organization as the setting for innovation was reviewed, in particular, the area related to the concepts of organizational health and service organizations. Finally, brief reference was made to the literature concerned with

resistance to innovation and modes of expressing this resistance in organizations.

IV. HYPOTHESES

Since the CSA had conducted climate studies using the OCDQ in Alberta schools for two consecutive years, it was decided that the information from these studies would be useful in conducting a stability test of the OCDQ. It would be the first time that this method was employed in substantiating the stability of this instrument. Also, it was hoped that the information obtained would add to the accumulation of data concerning the reliability of the OCDQ. Therefore, a set of four hypotheses were developed to examine the relationship between school organizational climates in 1964 and 1965.

Through the examination of the literature it became apparent that organizations, like organisms, must change in order to survive. The literature also disclosed that the climate of an organization was conceived as the characteristics of a system in equilibrium or its homeostatic state. The OCDQ instrument measures some of these characteristics in terms of the social interaction among the teachers and between the teachers and the principal. It is hypothesized in this study that certain activities and characteristics of the principals, and other factors related to the school organization, such as size and type, are related to the amount and direction of change in the organizational climate. The next fourteen hypotheses were developed to guide the investigation of these relationships.

Hypotheses Concerning Relationships Between Organizational Climates in 1964 and 1965

1. There are significant correlations between the standardized school scores on the eight subtests of the OCDQ for 1964 and 1965.
2. Openness of climate is positively related to the amount of change.
3. Some of the subtest scores change more than others.
4. There is a difference in the amount of change between the scores of four subtests of the OCDQ measuring the principal's behavior and the scores of four subtests measuring the teachers' behavior.

Hypotheses Concerning Relationships Between Characteristics of the Schools and Changes in School Organizational Climate

5. There is a relationship between school size and the amount of change in organizational climate.
6. The type of school is related to the amount of change in organizational climate.

Hypotheses Concerning Relationships Between Characteristics of the Principals of the Schools and Changes in School Organizational Climate

7. There is a relationship between the age of the principals and the amount of change in organizational climate.
8. The years of experience of the principals as principals is related to the amount of change in organizational climate.
9. There is a relationship between the years of education of the principals and the amount of change.

10. The amount of graduate work in educational administration completed by the principals is related to the amount of change in organizational climate.

Hypotheses Concerning Relationships Between Other Factors or Changes in The School and Changes in School Organizational Climate

11. There is a relationship between the principal's tenure in the school and the direction of change in the subtest scores between 1964 and 1965.

12. The tenure of the principal is related to the amount of change in the eight subtest scores.

13. There is a relationship between the staff turnover and the direction of change in the subtest scores between 1964 and 1965.

14. The staff turnover is related to the amount of change in the eight subtest scores.

15. The fact that the principal presented information from the 1964 climate clinic to his staff is related to the amount of change in the organizational climate of the school.

16. The amount of time the principal devoted to presenting information to his staff from the 1964 clinic is related to the amount of change in the organizational climate of the school.

17. The fact that the principal undertook activities in an effort to change the organizational climate of the school is related to the amount of change that has taken place.

18. The fact that the principal attempted to change his behavior in an effort to change the organizational climate of the school

is related to the amount of change that has taken place.

CHAPTER III

INSTRUMENTATION, METHODOLOGY, AND DESCRIPTION OF THE SAMPLE

I. INSTRUMENTATION

The data necessary to test the hypotheses of the study were obtained by the use of three instruments: the Organizational Climate Description Questionnaire, and two principals' questionnaires which were identified as the Principal's Questionnaires A and B. These instruments are described below.

The Organizational Climate Description Questionnaire

Halpin and Croft, using both theoretical and statistical approaches, recently developed this instrument for describing some of the factors associated with school organizational climate.¹ By relying on theoretical schemes for classifying behavior in groups and describing characteristics of groups, they were able to obtain a starting point for generating the items; the statistical procedures helped them to classify the items by categories.

The OCDQ contains sixty-four items (Appendix A). The items are such that they can be answered in terms of the frequency with which various behaviors occur in the school, as perceived by the teachers who

¹A. W. Halpin and Don B. Croft, The Organizational Climate of Schools (Chicago: Midwest Administration Center, University of Chicago, 1963).

respond to the questionnaire. By means of factor-analytic methods, these items have been assigned to eight subtests. Four of these subtests--Disengagement, Hindrance, Esprit, and Intimacy--pertain primarily to behavior of the group. The other four--Aloofness, Production Emphasis, Thrust, and Consideration--pertain to the behavior of the principal. A brief description of these subtests follows.

Teachers' Behavior

1. Disengagement refers to teacher behavior which is related to the degree of personal involvement in and enthusiasm for their work. It is a measure of the extent to which they work well together or gripe and bicker among themselves.

2. Hindrance refers to the extent to which teachers feel that the principal burdens them with routine duties, committee demands and other requirements which the teachers construe as unnecessary busy-work. High hindrance suggests a situation in which teachers perceive that the principal is hindering rather than facilitating their work.

3. Esprit refers to "morale." Under high esprit the teachers feel that their social needs are being satisfied, and that they are, at the same time, enjoying a sense of accomplishment in their job.

4. Intimacy refers to the extent of the teachers' enjoyment of friendly social relations with each other. This dimension describes a social needs satisfaction which may not necessarily be associated with task accomplishment.

Principal's Behavior

5. Aloofness refers to the extent of the behavior by the principal which is characterized as formal and impersonal. He prefers to be guided by rules and policies rather than to deal with the teachers in an informal, face-to-face situation. His behavior, in brief, is universalistic rather than particularistic; nomothetic rather than idiosyncratic. There is very little overt friendliness and personal contact between principal and teachers.

6. Production Emphasis refers to the extent to which behavior of the principal is characterized by close supervision of the staff. He is highly directive and task oriented. His communication tends to go in only one direction, and he is not sensitive to feedback from the staff.

7. Thrust refers to the extent to which behavior of a principal is characterized by his evident effort to move the organization in a goal-oriented direction through good personal example. Apparently, because he does not ask the teachers to give of themselves any more than he willingly gives of himself, his behavior, though starkly task-oriented, is nonetheless viewed favorably by the teachers.

8. Consideration refers to the extent of the behavior by the principal which is characterized by an inclination to treat the teachers with warmth and to try to do a little something extra for them in human terms.²

²Ibid., pp. 29 and 32.

The number of items in a particular subtest varies from a high of ten to a low of six. To compute each respondent's scores for the eight subtests, the mean of the item scores is determined. The mean scores for all respondents in that school on each subtest is calculated to give the school's subtest scores.

Factor analysis of these subtests revealed that there were three main aspects or factors of the organizational climate of the school being tapped by the tests. First, the extent to which the individual social needs are being satisfied; second, the extent to which the group needs for achievement and maintenance are being met; and third, describes the behavior of the leader.

These subtests give some indication of variables involved but to describe the total climate it is necessary to look at the profile of the subtest scores for a particular school. Comparisons among schools can then be made on the basis of similarities and differences in profiles. The scores from the seventy-one schools in the Halpin and Croft study were appropriately standardized and then factor analytic procedures were used to determine whether or not certain profiles tended to cluster together. Six clusters were established and for each of these a prototypic profile in terms of standard scores was calculated. The sum of the absolute differences between each subtest score in a school's profile and the corresponding score in each prototypic profile produces a "profile-similarity score." The lowest profile-similarity score indicates the greatest degree of similarity between the school's profile and one of the prototypic profiles. A school is assigned to the category

of organizational climate defined by the prototypic profile for which its profile-similarity score is lowest.

The organizational climates represented by the six prototypic profiles have been ranked according to their degree of openness as indicated by the Esprit score. These profiles are presented in Table I.

TABLE I
PROTOTYPIC PROFILES FOR SIX ORGANIZATIONAL CLIMATES
RANKED IN RESPECT TO OPENNESS VS. CLOSEDNESS^a

Climates	Group's Characteristics				Leader's Characteristics			
	Disen- gage- ment	Hind- rance	Esprit	Inti- macy	Aloof- ness	Produc- tion Emphasis	Thrust	Consi- dera- tion
Open	43	43	63	50	42	43	61	55
Autonomous	40	41	55	62	61	39	53	50
Controlled	38	57	54	40	55	63	51	45
Familiar	60	42	50	58	44	37	52	59
Paternal	65	46	45	46	38	55	51	55
Closed	62	53	38	54	55	54	41	44

^aA. W. Halpin and Don B. Croft, The Organizational Climate of Schools (Chicago: Midwest Administration Center, University of Chicago, 1963), p. 59.

Factor analysis of the profiles for a sample of schools suggested three main underlying parameters. The three parameters deal with source of leadership acts, type of need-satisfaction, and the authenticity of behavior. The source of leadership acts are the principal, teachers or both. The relative emphasis on the satisfaction of social

needs and task achievement needs is the second parameter. In some schools, there may be emphasis on one or the other of these needs, in others there may be a balance, and in still others a lack of satisfaction of either of the two groups of needs. The third parameter, authenticity, refers to the genuineness of behavior or the extent to which the behavior of individuals in the organization is consonant with their awareness of reality. Brief descriptions of each climate, based on those presented in the monograph, follows:³

1. The Open Climate is represented by a profile having low scores for Disengagement, Hindrance, Production Emphasis, and Aloofness; high scores for Esprit, Thrust, and Consideration and an average score for Intimacy. At the same time as this type of organization moves towards its goals, it provides satisfaction for group members' social needs. Leadership acts emerge easily from both the group and the leader. The main characteristic of this climate is the authenticity or genuineness of behavior of all the people in the organization.

2. The Autonomous Climate is characterized by relatively high scores for Esprit, Intimacy, and Thrust and a high score for Aloofness. Disengagement, Hindrance, and Production Emphasis have low scores, while there is an average score for Consideration. Leadership acts emerge primarily from the group. Satisfaction from social needs may be slightly higher than from task-achievement, although the latter is also present. Authenticity of behavior is still high.

³Ibid., pp. 60-67.

3. The Controlled Climate is marked by high scores for Production Emphasis and Hindrance, and low scores for Disengagement, Intimacy and Consideration. The Esprit and Aloofness scores are slightly above average. Thrust of the principal is average. This climate indicates a highly impersonal and task-oriented organization. Little emphasis is given to behavior directed at social needs satisfaction. Although Esprit is above average, there is some lack of authenticity due to the disproportionate pre-occupation with task achievement.

4. The Familiar Climate is represented by a profile with high scores for Intimacy and Consideration and low scores for Production Emphasis, Aloofness and Hindrance. The principal has above average score for Thrust, and there is an average Esprit score. The group score on Disengagement is high. This is a highly personal, but uncontrolled, situation; social needs are satisfied but at the expense of task-achievement needs. Leadership acts emerge from the staff but are not likely to be in connection with task-achievement.

5. The Paternal Climate is described by a profile with high Disengagement and Production Emphasis. This is combined with low Esprit, Intimacy, Hindrance, and Aloofness. High Thrust and Consideration characterize the principal's behavior. The principal constrains the emergence of leadership acts from the group and attempts to initiate most of the acts himself. Morale is low because little satisfaction is gained from either social or achievement needs. The principal's behavior is "non-genuine" and is perceived by the teachers as non-motivating.

6. The Closed Climate is marked by high scores for Hindrance, Disengagement, Production Emphasis and Aloofness, and low scores for Esprit, Thrust and Consideration. There is an average score for Intimacy. There is a high degree of apathy on the part of all members of the organization. The principal is aloof. He emphasizes production but does not work hard and set a good example for himself. Esprit is low because there is no social needs or task-achievement needs satisfaction. The organization is stagnant and the behavior of the members of the organization, particularly the principal, is not genuine or authentic.

Validity of the OCDQ

Halpin and Croft made no formal attempt to validate the instrument; they trusted that its validity lay in good theoretical and statistical bases. Although they recognized that there are numerous factors which could be conceived as defining the Climate of a school, they chose to limit their study to descriptions made of the school, primarily in terms of teacher-principal relationships. Their approach was heuristic and the result was a tentative way of describing the Organizational Climate of schools. To summarize their thinking, they are waiting for the accumulation of data for empirical validation.

This accumulation of data is beginning. Recently, Andrews reported on studies having a bearing on the validity of the OCDQ.⁴ He

⁴J. H. M. Andrews, "Some Validity Studies of the OCDQ" (paper delivered at the Conference of the American Educational Research Association, Chicago, February 10, 1965).

applied the construct validity approach. Andrews states, "This approach regards a measure as valid to the extent to which the measure demonstrates relationships with other measures which can be predicted in accordance with theory."⁵ Andrews feels that the overall climate categorizations should be considered only as reasonably valid descriptions of commonly occurring patterns of scores on the subtests, but that a much more positive conclusion is warranted for the subtests. For he states, in conclusion:

On the basis of the present evidence, then, it is concluded that the subtests of the Organizational Climate Description Questionnaire provide reasonably valid measures of important aspects of the leadership of the school principal in a perspective of interaction with his staff.⁶

In another recent study, Roseveare reported the following conclusions concerning the validity of some of the subtests of the OCDQ: (1) since it met the tests of reliability, factor analysis and statistical correlation, the subtest Thrust was valid; (2) the subtest Esprit was not validated conclusively; (3) the subtests Esprit and Thrust measured different though related dimensions; and (4) caution should be used in interpreting the climates which are based upon the eight subtest scores.⁷ Finally, he states: "this study has pointed to a number of areas needing further study and to the need for a more comprehensive validity study of the OCDQ and other dimension-measuring

⁵Ibid., p. 2. ⁶Ibid., p. 38.

⁷Carl G. Roseveare, "The Validity of Selected Subtests of the Organizational Climate Description Questionnaire" (unpublished Ph.D. thesis, University of Arizona, Phoenix, 1965). Authorized reprint of the Original Edition produced by Microfilm-Xerography by University Microfilms, Inc., Ann Arbor, Michigan, 1966, p. 56.

instruments."⁸

The Principal's Questionnaire A (see Appendix B)

Only sections A and B of this questionnaire, having to do with school and administrative characteristics, are relevant to this study.⁹ These sections provided such information as the sizes and types of schools taking part in the study and biographical data concerning the principals of the schools.

The Principal's Questionnaire B (see Appendix C)

This questionnaire not only confirmed the participation of the schools in the 1964 climate clinic, but also provided important information concerning the follow-up activities of the principal and his staff. It was an attempt to reveal some of the factors that may be related to changes in the organizational climate of the school. More specifically, to find out if the principal had presented the information from the 1964 clinic to his staff; if he had undertaken any activities in an effort to change the organizational climate of the school; if he had tried to modify his own behavior and if there were any other factors or circumstances which he felt may have influenced the organizational climate of the school in the past year.

⁸Ibid.

⁹The Principal's Questionnaire A was prepared by Erwin Miklos of the University of Alberta for use in the 1965 CSA Clinic on Organizational Climate. Only the sections used in this study are given in Appendix B.

II. METHODOLOGY

The Sample

The Council on School Administration (CSA) conducted clinics in Edmonton and Calgary both in 1964 and 1965 on the organizational climates of Alberta schools.¹⁰ Most of the data for this study were collected in conjunction with these clinics. Participation in these was voluntary. In 1965, 185 schools with five or more teachers from all parts of Alberta were involved. Of this number, ninety were participating for a second time. As insufficient information was obtained from two of the schools and principals, eighty-eight of the ninety schools were included.

Collection of Data

The principal was asked to complete one Principal's Questionnaire A and one copy of the OCDQ and seal them in the envelopes provided. He was also instructed to appoint a co-ordinator under whose direction nine teachers, selected at random from the staff, would complete the OCDQ. In schools of less than nine teachers, all teachers responded. The teachers were requested to give frank, independent responses. No time limit was set for the completion of the questionnaire. In order to assure complete anonymity, during analysis, the respondents were

¹⁰ These clinics were sponsored jointly by the Department of Educational Administration of the University of Alberta and the Council on School Administration of the Alberta Teachers' Association.

requested to write the name and address of the school on the envelope provided, not on the questionnaire. The co-ordinator was asked to place all the envelopes containing completed questionnaires, including those of the principal, in a large mailing envelope for return to the investigators. As soon as the OCDQ booklets were received by the investigators, the school name was coded and the envelope discarded.

At a later date, but before the clinics in March 1965, the Principal's Questionnaire B was sent out to the principals of those schools which were participating in the clinics for a second time. These were mailed and received before the 1965 clinics. This was to assure the investigators that the principals' responses would not be influenced by the results of this year's organizational climate study. For identification purposes, these questionnaires were coded with the school code number prior to mailing. A return-addressed, stamped envelope was included in the mailing.

III. DESCRIPTION OF THE SAMPLE

The sample used in this study was chosen because the conferences on school organizational climate mentioned previously, presented an opportunity to obtain data on organizational climates for two successive years. Ninety schools and principals which participated in these conferences in 1964 volunteered again in 1965. Since insufficient information was obtained for two of the schools and principals, eighty-eight were chosen for this study. As this is an accidental sample, there is no way to determine whether or not this sample is representative of

larger populations. However, it is hoped that a study using a sample of this type might be useful in determining the direction of further research using a more representative sample.

The sample may be described in terms of two sections. First, characteristics of the eighty-eight schools participating in the CSA studies for a second time, and second, characteristics of the principals of these schools. The information for the following tables was obtained from the Principal's Questionnaire A.

School Characteristics

Upon examination of the list of the schools in the sample, it was found that thirty-five schools were located in the cities of Edmonton and Calgary. The other fifty-three schools were located in the smaller cities, towns and villages of Alberta. Representatives of both the public school and the separate school systems of the province were included in the sample.

The schools in this sample varied widely in grade range and level. Table II presents the distribution of schools in the sample according to type of school.

Thirty-one schools, or 35.2 per cent of the sample, were classed as Elementary and contained grades 1-6. Elementary-Junior High, grades 1-9, numbered fifteen schools or 17.1 per cent of the sample. Twenty-five schools, 28.4 per cent, contained only Junior or Senior High grades. The remaining 19.3 per cent was made up of schools combining elementary grades with junior and senior high school grades. Thus, all types of schools were represented in the sample.

TABLE II
DISTRIBUTION OF SCHOOLS BY TYPE OF SCHOOL

Type of School	Number of Schools	Per Cent
Elementary Grade 1-6 or 8	31	35.2%
Elementary-Junior High Grade 1-9	15	17.1
Secondary Grade 7 or 9 to 9 or 12	25	28.4
Combined Grade 1-12	17	19.3
Total	88	100.0

The size of the schools, according to the number of full-time teachers including the principal, is illustrated in Table III.

TABLE III
DISTRIBUTION OF SCHOOLS BY NUMBER OF TEACHERS

Number of Teachers	Number of Schools	Per Cent
Fewer than 5	0	0
5 - 9	5	5.7%
10 - 14	24	27.3
15 - 19	20	22.7
20 - 24	11	12.5
25 - 29	15	17.0
30 - 39	10	11.4
40 - 49	1	1.1
50 or more	2	2.3
Total	88	100.0

From the preceding table, it may be seen that the schools in the sample differed widely in size. Although there were no schools with fewer than five teachers, they ranged in size from five teachers to more than fifty. However, forty-four of the schools, or 50.0 per cent, fell into the categories of from ten to nineteen teachers. Of the remainder, over 88 per cent had twenty or more teachers.

Table IV presents the distribution of schools by number of teachers teaching in the schools in the sample for less than one full year.

TABLE IV
DISTRIBUTION OF SCHOOLS BY NUMBER OF TEACHERS TEACHING
IN SCHOOL FOR LESS THAN ONE FULL YEAR

Number of New Teachers ^a	Number of Schools	Per Cent
One	13	15.0%
Two	7	8.0
Three	16	18.4
Four	12	13.8
Five	7	8.0
Six	7	8.0
Seven	5	5.8
Eight	6	6.9
Nine or more	14	16.1
Total	87 ^b	100.0

^aThe data did not indicate the source of the new teachers.

^bData unavailable for one school.

The number of new teachers in the schools of the sample ranged from a low of one to a high of nine or more. Fifteen per cent of the

schools had only one new teacher. However, 32.2 per cent of the schools had three or four new teachers; 28.7 per cent had from five to eight new teachers and 16.1 per cent had nine or more. Thus, over three-quarters, or 77.0 per cent of the schools in the sample, had three or more new teachers on the staff this year. Because this is fairly high, some elaboration of this topic is in order. In a recent report by the Alberta Teachers' Association, it was stated that:

In 1964-65, in centers of 30,000 population or more, 77.33 per cent of the teachers were teaching for their present school board the previous year, while in smaller centers, the figure was 73.27 per cent. In all categories there appears to be a slight, but consistent, trend toward increased mobility.¹¹

Thus, a large proportion of these teachers new to the staff, may have been teaching for the same school board the previous year. However, with regard to changes in a school's organizational climate, it is the number of teachers new to a school's staff rather than a school system that is relevant.

In summary, the schools in the sample represented both public and separate school systems in Alberta. They varied widely in grade range and level, with all types being represented. About one-half of the sample had from ten to nineteen teachers. The other half tended to be larger schools with over twenty teachers. Over three-quarters of the schools had three or more new teachers. With regard to the above characteristics, the schools of this sample appear to be fairly

¹¹M. T. Sillito and Dr. D. B. Black, The Alberta Teaching Force, September 1964. Research Monograph No. 10, The Alberta Teachers' Association, Barnett House, Edmonton, April, 1965, p. 25.

representative of the schools in Alberta.

Principals' Characteristics

In discussing this sample of principals, it should be borne in mind that these principals volunteered for two consecutive years to participate in the CSA studies of organizational climate. Thus, the extent that this sample is representative of all Alberta principals may be influenced by this fact.

The distribution of the sample of principals by sex is illustrated in Table V. This table shows that eighty, or 90.9 per cent, of

TABLE V
DISTRIBUTION OF PRINCIPALS BY SEX

Sex	Number of Principals	Per Cent
Male	80	90.9%
Female	8	9.1
Total	88	100.0

the principals were males. This is very close to Plaxton's reported figure of 90.2 per cent males for his sample of 177 principals.¹² It also approximates the distribution by sex of Alberta school principals reported by Ledgerwood in 1958.¹³ At that time, 88.7 per cent of the

¹²R. P. Plaxton, "Relationships Between Principals' Personality and the Organizational Climate of Their Schools" (unpublished Master's thesis, University of Alberta, Edmonton, 1965), p. 47.

¹³Douglas Ledgerwood, "Some Personal and Professional Characteristics of Alberta School Principals, 1958" (unpublished Master's thesis, University of Alberta, Edmonton, 1963), p. 18.

principals in Alberta were males.

The principals varied in age from under twenty-four years to sixty years and over. The distribution of the sample of principals by age is shown in Table VI.

TABLE VI
DISTRIBUTION OF PRINCIPALS BY AGE

Age (Years)	Number of Principals	Per Cent
Under 24 years	1	1.1%
25 - 29	5	5.7
30 - 34	6	6.8
35 - 39	16	18.2
40 - 44	15	17.0
45 - 49	17	19.3
50 - 54	12	13.7
55 - 59	12	13.7
60 and over	4	4.5
Total	88	100.0

The greatest number, 19.3 per cent of the principals, fell into the age range from forty-five to forty-nine years. The median age for principals was 44.8 years. This approximates the findings of Plaxton¹⁴ and Ledgerwood,¹⁵ 45.5 years and 45.4 years respectively, for the median age of principals in Alberta schools.

Table VII shows the distribution of the principals by years of training.

The mode for years of training of this sample of principals was

¹⁴Plaxton, op. cit., p. 48. ¹⁵Ledgerwood, op. cit., p. 20.

TABLE VII
DISTRIBUTION OF PRINCIPALS BY YEARS OF TRAINING

Years of Training	Number of Principals	Per Cent
One	0	0.0
Two	2	2.3%
Three	7	8.0
Four	30	34.5
Five	17	19.5
Six	31	35.7
Total	87 ^a	100.0

^aData unavailable for one principal.

six years. Almost 90 per cent (89.7 per cent), of the principals had four years or more of training. On the other hand, only 10.3 per cent had less than four years of training. This is in accord with Plaxton's findings for his sample of principals; 89.0 per cent with four or more years of training and 11.1 per cent with less than four years of training.¹⁶ Ledgerwood found for principals of schools having nine or more teachers, the following proportions: 43.2 per cent beyond four years of training and 20.6 per cent with less than four years of training.¹⁷ These differences are probably due to the increased emphasis on training for administrators as well as the nature of the sample itself.

Table VIII shows that only nine principals, or 10.5 per cent, hold a graduate degree in Educational Administration. Thirty-five, or

¹⁶Plaxton, op. cit., p. 51. ¹⁷Ledgerwood, op. cit., p. 22.

TABLE VIII

DISTRIBUTION OF PRINCIPALS BY THE AMOUNT OF GRADUATE
WORK IN EDUCATIONAL ADMINISTRATION

Amount of Graduate Work in Educational Administration	Number of Principals	Per Cent
No Graduate University Courses	42	48.8%
Some Courses	35	40.7
Hold a Graduate Degree	9	10.5
Total	86 ^a	100.0

^aNo data available for two principals.

40.7 per cent, have some courses in administration. Nearly half, forty-two principals or 48.8 per cent, have no graduate university courses in administration. Ledgerwood reported in 1958 that 165 or 50.1 per cent of his sample of 331 principals had taken no credit courses or only one credit course in Educational Administration.¹⁸

Table IX presents the distribution of principals by total years of experience as a principal.

The median number of years of experience as a principal was 9.7 years. In his study, Ledgerwood found that Alberta principals had spent a median of 8.3 years in the principalship.¹⁹ Twenty-eight or 31.9 per cent of the principals in this sample have less than six years experience as a principal.

Table X gives the distribution of principals by length of tenure

¹⁸Ibid., p. 29.

¹⁹Ibid., p. 31.

TABLE IX

DISTRIBUTION OF PRINCIPALS BY EXPERIENCE AS PRINCIPAL

Years of Experience as a Principal	Number of Principals	Per Cent
1 year	7	8.0%
2 - 3	5	5.7
4 - 6	16	18.2
7 - 9	15	17.0
10 - 12	17	19.3
13 - 15	8	9.1
16 - 18	7	8.0
19 - 20	4	4.5
21 years or more	9	10.2
Total	88	100.0

TABLE X

DISTRIBUTION OF PRINCIPALS BY LENGTH OF TENURE
AS PRINCIPAL IN PRESENT SCHOOL

Years of Experience in Present School	Number of Principals	Per Cent
1 year	13	14.8%
2 years	12	13.7
3 or 4	18	20.5
5 or 6	18	20.5
7 or 8	13	14.8
9 - 10	4	4.5
11 - 15	3	3.4
16 - 20	4	4.5
21 years or more	3	3.4
Total	88	100.1

as principal in the present school. It is significant that 14.8 per cent of the principals had less than one year in the present school, as the principal before this study was completed.

Less than six years was spent in their present school as the principal by 69.5 per cent of the principals. The median principalship in the present school was 4.6 years which is very close to the median of 4.0 years that Ledgerwood reported for his sample of 331 principals.²⁰

To summarize, the majority of the principals were middle-aged males with four or more years of training. Only one-tenth of the sample had graduate degrees in Educational Administration while nearly half of them had no graduate courses in this field. Although the median for years of experience as a principal was about ten years, 70 per cent of the principals had less than six years of this experience in their present school.

In terms of the variables indicated, and on the basis of other available information, the sample of principals appears to have been fairly representative of Alberta principals. Therefore, there may not be great error in assuming that their responses were fairly typical of Alberta principals generally.

²⁰ Ibid., p. 35.

CHAPTER IV

TREATMENT OF THE DATA

The fundamental purposes of this study were to analyse the changes that have occurred in the organizational climates of schools and to determine the stability of OCDQ measures and categorizations. In order to carry out these purposes, the data collected were treated as follows.

The OCDQ measures were obtained through procedures similar to those used by Halpin and Croft.¹ This involved the standardization of the scores over eighty-eight schools in the sample. The calculations were carried out for both the 1964 and 1965 scores.

Amount of Change

The standardized score on each of the eight subtests for each of the eighty-eight schools was obtained. Since subtest scores were determined for each school in the two consecutive years, it was possible, by subtraction, to obtain the absolute difference between the 1964 and the 1965 scores. The absolute difference of the scores for the four subtests measuring the teachers' behavior and the four subtests measuring the principal's behavior were calculated separately. By adding these two differences, the total absolute difference or the

¹Andrew W. Halpin and Don B. Croft, The Organizational Climate of Schools (The University of Chicago: Midwest Administration Center, 1963).

amount of change was determined. Table XI illustrates the frequency distribution by the amount of change for the eighty-eight schools of the sample.

TABLE XI
DISTRIBUTION OF SCHOOLS BY AMOUNT OF CHANGE

Amount of Change ^a	Frequency	Amount of Change	Frequency
86 - 90	1	41 - 45	10
81 - 85	0	36 - 40	4
76 - 80	0	31 - 35	6
71 - 75	0	26 - 30	15
66 - 70	1	21 - 25	12
61 - 65	1	16 - 20	11
56 - 60	4	11 - 15	5
51 - 55	4	6 - 10	6
46 - 50	5	1 - 5	3
Total			88

^aAbsolute difference.

This table shows that the amount of change in the subtest scores ranged from a low of one to five, to a high of eighty-six to ninety absolute units of difference. The median was 27.83. This was used as a guide to dichotomize the schools into two groups; forty-four with relatively more change and forty-four with relatively less change.

Direction of Change

The direction of change was calculated by subtracting the 1965 subtest score from the similar score in 1964. This gave an algebraic difference which could be interpreted as an increase or decrease in the score. A comparison of the subtest scores in the two successive years

is shown in Table XII.

TABLE XII
COMPARISON OF SUBTEST SCORES IN TWO SUCCESSIVE YEARS

Subtests	1965 Scores Compared with 1964 Scores		Relative ^a Change
	Higher	Lower	
Teachers' Behavior			
Disengagement	47	41	+6
Hindrance	40	48	-8
Esprit	47	41	+6
Intimacy	47	41	+6
Principal's Behavior			
Aloofness	44	44	0
Production Emphasis	39	49	-10
Thrust	41	47	-6
Consideration	43	45	-2

^aPlus indicates a relative increase in the number of schools, minus a relative decrease.

It is interesting to note that there is the same number of schools with the same relative increase in three of the four subtests measuring the teachers' behavior. Hindrance was the only subtest of this group showing a greater relative decrease in the number of schools. On the other hand, there is a greater relative decrease in the number of schools in three of the four subtests measuring the principal's behavior. Production Emphasis had a marked relative decrease while Aloofness remained relatively the same.

Climate Classifications

The subtest scores were used to determine the "profile-similarity

scores" as outlined by Halpin and Croft.² The lowest profile-similarity score indicated the greatest degree of similarity between the school's profile and one of the prototypic profiles. Each of the schools in the sample was assigned to the category of organizational climate defined by the prototypic profile for which its profile-similarity score was lowest. Since this was done for both the 1964 and 1965 profile scores, climate categories were obtained for each school for the two consecutive years. By this means a comparison was made as outlined in Table XIV.

Summary of the Statistical Tests Used

In the analysis of the data, essentially four statistical procedures were utilized. These were chi-square, an intercorrelation matrix, a one-way analysis of variance and t-tests between means. Throughout the analysis the .05 level of confidence was established, for rejection of the null hypotheses. In the instances where the null hypotheses were rejected at this level, appropriate tests were used to determine the magnitude of the relationships. A brief outline of where each of these tests were employed follows.

The chi-square test of significance was used to test thirteen of the eighteen hypotheses. Generally, these hypotheses were concerned with relating the direction or amount of change and various categories of school and principal characteristics. Chi square is a statistical technique which enables the investigator to evaluate the probability of obtaining differences between the actual and expected frequencies in the categories of one or more classifications as a result of sampling

²Ibid., pp. 67-71.

fluctuation. The appropriate contingency tables and formulae were used.³

The remaining five hypotheses were tested as follows: hypothesis number one, which stated that there are significant correlations between the standardized school scores on the eight subtests of the OCDQ for the consecutive years 1964 and 1965, was tested by means of an inter-correlation matrix.

To determine if some subtest scores change more than others, hypothesis number three, a t-test between the means of the two subtests with the greatest degree of difference in the amount of change was calculated.⁴ The amount of change was determined for each subtest as outlined above. From these data, the mean amount of change was easily obtained. As a further test, a one-way analysis of variance was carried out.

To test the fourth hypothesis, that there is a difference in the amount of change between the four subtests measuring the principal's behavior and the four subtests measuring the teachers' behavior, the amount of change for each of the groups of subtests was determined. Then means, standard deviations and correlations of the two groups were calculated. A t-test for the significance of the difference between means for correlated samples was completed.⁵

Hypotheses twelve and fourteen, which related tenure of the

³George A. Ferguson, Statistical Analysis in Psychology and Education (Toronto: McGraw-Hill Book Co., Inc., 1959), p. 169.

⁴Ibid., p. 137. ⁵Ibid., pp. 138-40.

principal and staff turnover, respectively, to the amount of change in each of the eight subtests were tested by employing t-tests.

CHAPTER V

ANALYSIS OF THE DATA AND DISCUSSION OF RESULTS

This study is based on the premise that changes in organizational climate are continually taking place and that these changes could be tested statistically after the period of one year. This chapter outlines the procedures used in the analysis of the data obtained from three instruments: the OCDQ in the consecutive years of 1964 and 1965, and the Principal's Questionnaires A and B. The null hypotheses, the statistical treatments to which they were exposed and the results of these treatments will be given. The significance of the results will also be discussed.

The null hypotheses associated with each of the previously stated research hypotheses were categorized for testing purposes into four main groups. The first four hypotheses were intended to indicate relationships between the school organizational climates, as measured by the OCDQ, for the two years 1964 and 1965. Relationships between some characteristics of the schools and the amount of change in organizational climate is the concern of the next two hypotheses. The third group of hypotheses, four in number, are concerned with some characteristics of the principals and again, the amount of change in organizational climate. The last eight hypotheses show the relationships between the direction of change and the amount of change in organizational climate to other factors or changes in the schools.

I. HYPOTHESES CONCERNING RELATIONSHIPS BETWEEN ORGANIZATIONAL CLIMATES IN 1964 AND 1965

Relationships between organizational climates in two consecutive years are the concern of the first four null hypotheses. As a research tool, the OCDQ has been validated to some extent by Andrews¹ and other investigators who have used it. The first hypothesis is an attempt to investigate the stability of this instrument. Theoretically, the open type climate should be associated with organizational change. Hypothesis number two relates openness of climate and amount of change. It is reasonable to hypothesize that because there are a number of factors associated with organizational climate that some of the eight subtest scores of the OCDQ will change more than others. The third hypothesis is an attempt to test this conjecture. The final hypothesis of this section, number four, is an attempt to determine if there is a significant difference between the amount of change associated with the four subtests that measure the principal's behavior: Aloofness, Production Emphasis, Consideration and Thrust, and the amount of change associated with the subtests Disengagement, Hindrance, Esprit and Intimacy which measure the teachers' behavior.

Hypothesis Number One

The first hypothesis tested was that the correlations between the

¹J. H. M. Andrews, "Some Validity Studies of the OCDQ," University of Alberta, Edmonton (paper given at the conference of the American Educational Research Association, Chicago, February, 1965).

school scores on the eight subtests of the OCDQ for 1964 and 1965 are not significantly different from zero.

Table XIII presents the correlations between the eight subtests of the OCDQ for the two consecutive years.

TABLE XIII
PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN OCDQ
SUBTEST SCORES FOR THE YEARS 1964 AND 1965
(N = 88 Schools)

Subtests	r^a
Disengagement	.520 ^b
Hindrance	.561
Esprit	.668
Intimacy	.424
Alcوفness	.557
Production Emphasis	.616
Thrust	.671
Consideration	.457

^aA value of .207 is required for significance at the .05 level.

^bAll eight correlation coefficients are significantly different from zero at the .01 level of confidence.

The positive correlations between the subtests in consecutive years, indicate a moderate level of stability of the OCDQ measures. This is of particular importance for further use of this instrument. Thus, the null hypothesis that the correlations between the school scores on the eight subtests of the OCDQ for 1964 and 1965 are not significantly different from zero is rejected.

Discussion

Although Halpin and Croft did not estimate the reliabilities of the subtests by the test-retest method, they did perform three types of reliability estimates: computing split-half coefficients of reliability, correlating the scores of the odd numbered and the even numbered respondents in each school, and estimating communality for three factor rotational solution, on each of the subtests respectively. For the first, reliability coefficients ran from .26 to .84; for the second, from .49 to .76; and for the third, from .44 to .73.² Since this research was in the exploratory phase, they felt that these estimates of reliability of the subtests were adequate.

In a study replicating Halpin and Croft's statistical procedures, Roseveare found that the subtests Esprit and Thrust have the highest reliability coefficient of the eight subtests; .77 and .81, respectively. On the other hand, the subtests Intimacy, Aloofness and Production Emphasis obtained low Kuder-Richardson reliability coefficients of .42, .07 and .28, respectively. Due to the low reliability of these latter subtests, Roseveare recommended that caution be used in the interpretation of the climate categories.³

It is interesting to note that in comparing the results of this

²A. W. Halpin and Don B. Croft, The Organizational Climate of Schools (Chicago: Midwest Administration Center, University of Chicago, 1963), pp. 48-49.

³Carl G. Roseveare, "The Validity of Selected Subtests of the Organizational Climate Description Questionnaire" (unpublished Ph.D. thesis, University of Arizona, Phoenix, 1965). Authorized reprint of the Original Edition produced by Microfilm-Zerography by University Microfilms, Inc., Ann Arbor, Michigan, 1966, pp. 54-55.

study, which used the more rigorous test-retest method, to that of Roseveare, the correlations for Thrust and Esprit are the highest of the eight correlations obtained and the correlations for Hindrance and Intimacy are relatively lower. However, the correlations for the other four subtests differ considerably in relative position between the two studies. What is indicated here is that some of the subtests, namely, Thrust and Esprit may be more reliable and stable than others. This, in turn, suggests further research to substantiate this finding as well as further research to test the reliability of the other subtests.

Table XIV illustrates the relationship between the climate classifications for 1964 and 1965. It is interesting to note that thirty-eight schools--twelve with Open climates, twelve with Closed climates, eight with Controlled climates, and three each with Autonomous and Familiar climates--remained in the same climate classifications respectively. If we assume that these climate classifications are on a continuum, it is probable that a large proportion of the schools at the ends of the continuum would remain the same. It is also probable that a large proportion of the Controlled climate schools would be unchanged because of the nature of this type of climate. Since a Controlled climate is highly impersonal and task-oriented, with the principal in a domineering position, unless there is some change in the principal, the climate would not change very much over the period of one year.

In order to calculate the contingency coefficient, Table XIV was combined into a 3 x 3 table as illustrated in Table XV.

Using the appropriate formula, a chi square value of 14.93,

TABLE XIV

DISTRIBUTION SHOWING RELATIONSHIP BETWEEN THE 1964
AND THE 1965 CLIMATE CLASSIFICATIONS

1965 Climate Classifications	1964 Climate Classifications						Totals
	Open	Auton.	Cont.	Familiar	Paternal	Closed	
Open	12	-	2	2	4	2	22
Autonomous	2	3	-	1	1	4	11
Controlled	3	-	8	-	2	4	17
Familiar	1	-	-	3	-	1	5
Paternal	2	-	-	1	-	5	8
Closed	3	2	4	3	1	12	25
Totals	23	5	14	10	8	28	88

TABLE XV

RELATIONSHIP BETWEEN THE 1964 AND THE 1965 CLIMATE CLASSIFICATIONS

1965 Climate Classifications	1964 Climate Classifications			Totals
Open - Auton.	Cont.- Familiar	Paternal- Closed		
Open - Autonomous	17	5	11	33
Controlled- Familiar	4	11	7	22
Paternal- Closed	7	8	18	33
Totals	28	24	36	88

significant at the .01 level of confidence, was determined.⁴ The contingency coefficient calculated to measure this significant relationship was .38. Although this is well below the maximum value of .816 for a 3x3 contingency table, it does indicate that there was a significant positive relationship between the 1964 and 1965 climate classifications.⁵

Further to this, Table XVI shows the distribution of the Organizational Climates by Types of Schools for 1964 and 1965. This table does not indicate changes in organizational climates of specific schools but only the gross changes between 1964 and 1965 that were associated with the four different types of schools in this sample.

TABLE XVI
DISTRIBUTION OF THE ORGANIZATIONAL CLIMATES
BY TYPES OF SCHOOLS FOR 1964 AND 1965

Type of School	Organizational Climate											
	Open		Autonomous		Controlled		Familiar		Paternal		Closed	
	64	65	64	65	64	65	64	65	64	65	64	65
Elementary Gr. 1-6/8	8	10	3	4	10	10	2	2	3	0	5	5
Elementary- Junior High Gr. 1-9	5	2	2	3	1	3	1	2	0	2	6	3
Secondary Gr. 7/9 - 9/12	7	7	0	0	3	3	6	2	4	3	5	10
Combined Gr. 1-12	2	2	0	3	1	2	1	0	1	3	12	7
Totals	22	21	5	10	15	18	10	6	8	8	28	25

⁴G. A. Ferguson, Statistical Analysis in Psychology and Education (Toronto: McGraw-Hill Book Co., 1959), pp. 165-72.

⁵Ibid., p. 196.

On analysis, it reveals that there were the same number of Elementary Schools in 1965 with Controlled, Familiar and Closed climates as there were in 1964. The only changes in these schools were an increase by two in the number with Open climates, an increase by one in number of Autonomous climates, and a decrease by three in the number with Paternal climates. Thus, no general trend of change is apparent at this level.

At the Elementary-Junior High level, there was a decrease in the number of Open and Closed climates, with a resulting increase in the number of Autonomous, Controlled, Familiar and Paternal Climates. If we think of these climates on a continuum from Open to Closed, or vice versa, there appeared to be a movement toward the center of the continuum.

In the Secondary type of schools, there were twice as many Closed climates in 1965 as there were in 1964; the same number of Open, Autonomous, and Controlled climates; and a decrease in the number of Familiar and Paternal type climates. This movement on the continuum could lead to a speculation that at this level, the Closed climates were becoming more closed.

At the final level, or at combined types of schools, there was a marked decrease in the number of Closed climates with a resulting increase in the number with Autonomous, Controlled and Paternal climates. There was no change in the number with Open climates.

From an overall point of view 47.8 per cent and 52.2 per cent of the schools had Open and Closed climates respectively in 1964. By

1965 this had changed to 55.7 per cent Open and 44.3 per cent Closed. Or to interpret the data in another manner, the ratio of Open to Closed climates for 1964 is: $42:46 = .91$, and for 1965 is: $49:39 = 1.25$. These results could be interpreted as an overall trend toward more openness in the organizational climates of the schools in this sample. However, due to the limitations of this study, this is a highly speculative interpretation and is subject to a confounding effect of uncontrolled variables. But, it has implications for further research and for that reason is mentioned.

In summary, it is evident that certain of the subtests, particularly Esprit and Thrust, have fairly high stability. Also, that there is a significant positive relationship between the climate classification for the two consecutive years 1964 and 1965. Finally, there is an indication that there could be an overall trend toward more openness in the organizational climates of the schools in the sample. Each of these findings have implications for further research and as such are important in providing more information regarding the use of the OCDQ.

Hypothesis Number Two

The second hypothesis stated that there was no significant difference in the distribution of the schools when the openness of the climates and the amount of change were dichotomized.

In order to establish the cell frequencies in the 2×2 contingency table for the chi square test, the schools in the sample were grouped into two categories based on their 1964 climates. Category I consisted of 42 schools with either Open, Autonomous or Controlled

climates; Category II, 46 schools with Familiar, Paternal or Closed climates. Basic to this dichotomization is the assumption that the climate classifications are on a continuum with an increase in closedness or openness as the ends of the continuum are reached.

For the amount of change dimension of the table, two categories based on the sum of the absolute differences of each of the subtests between 1964 and 1965 were established. The median of these sums for the eighty-eight schools was determined and this was used to establish groups which experienced relatively more or relatively less change.

At the .05 level of confidence, a chi square value of 3.84 was required. The value of chi square calculated was .73. Therefore, the null hypothesis was accepted and there is no evidence of a direct relationships between the openness of the climates and the amount of change in these climates.

Discussion

The lack of relationship between the amount of change and the openness of the climates may be due to the fact that the scores of the individual subtests were not in ascending or descending order when the climates were ranked from open to closed. Thus, with the use of a chi square and a 2 x 2 contingency table, there is no evidence of a relationship between these measures. However, the problem is worthy of further consideration using more refined methods.

Hypothesis Number Three

The third hypothesis stated that there were no significant differences among the means of the absolute differences of the eight

subtests of the OCDQ in 1964 and 1965.

Initially, to test this hypothesis, a t-test between the means of the two subtests with the greatest degree of difference in the amount of change was calculated. The amount of change in the subtests was determined as outlined in Chapter V. From these data, a mean amount of change was calculated for each subtest. Table XVII illustrates these means arranged in increasing magnitude of change between 1964 and 1965.

TABLE XVII
MEAN AMOUNT OF CHANGE FOR THE EIGHT
SUBTESTS OF THE OCDQ

Subtest	Mean Amount of Change
Esprit	6.467
Thrust	6.762
Production Emphasis	6.786
Disengagement	7.550
Aloofness	7.563
Hindrance	7.589
Consideration	8.350
Intimacy	8.748

From this table it may be seen that the subtest Intimacy changed the most over the time interval of approximately one year, while the subtest Esprit changed the least. The difference between these means was $8.748 - 6.467 = 2.281$. Since the calculated value of $t = .784$ did not equal or exceed the critical value of 1.990 required, the null hypothesis was accepted.

As a further test, a one-way analysis of variance was used. The results for this test are shown in Table XVIII. A critical value of

TABLE XVIII
ONE-WAY ANALYSIS OF VARIANCE FOR THE AMOUNT
OF CHANGE OF THE OCDQ SUBTESTS

Source	SS	MS	DF	F	P
Groups	388.22705	55.461007	7	1.73	0.098
Error	22314.548	32.061132	696		

2.01 was required. Thus, an F value of 1.73 and a probability of .098 indicate that the differences among means of the amount of change of the eight subtests of the OCDQ are not significant at the .05 level of confidence. However, at the .10 level of confidence, an F value of 1.72 was required. Although the null hypothesis is accepted, the probability is such that differences as great as these among the subtests will occur in 10 per cent of random samples. This, then, may be taken as a rough indication that some of these subtests do change more than others over the short period of approximately one year.

Discussion

The slight indication that some of the subtests change more than others suggests that a similar study with a longer time interval might find a significant amount of change among the subtests. However, it is of interest to note that the subtest Intimacy changed the most over this short interval of time. An attempt to explain this finding will be given in the discussion of the results to the next hypothesis.

Hypothesis Number Four

The fourth hypothesis stated that there was no significant difference between the mean of the absolute differences of the four subtests of the OCDQ measuring the principal's behavior and the mean of the absolute differences of the four subtests measuring the teachers' behavior.

To determine the amount of change, the absolute differences between 1964 and 1965 of the four subtests measuring the principal's behavior were totalled for each of the eighty-eight schools. Similarly, this was done for the four subtests measuring the teachers' behavior. Then, the means, standard deviations and correlations of the two groups were obtained. These results are shown in Table XIX.

TABLE XIX

MEANS, STANDARD DEVIATIONS AND CORRELATIONS FOR ABSOLUTE
DIFFERENCES BETWEEN 1964 AND 1965 OF THE OCDQ SUBTESTS
MEASURING THE PRINCIPAL'S BEHAVIOR AND THE
TEACHERS' BEHAVIOR
(N = 88 Schools)

Groups	Means	Standard Deviations	r
Principals	13.77	9.23	-0.040
Teachers	16.82	13.67	

A t-test for the significance of the difference between two means for correlated samples was determined. The value obtained, $t = 2.480$, exceeds the critical value of 1.980 required at the .05 level of confidence for the two-tailed test (probability between .05 and .01). Thus,

the null hypothesis is rejected. This indicates that there is a significant difference in the amount of change between these two groups of subtests. It may be seen from the above table that the mean amount of change for the group of subtests measuring the teachers' behavior, i.e., Disengagement, Hindrance, Esprit and Intimacy, is greater than the corresponding mean of the group of subtests measuring the principal's behavior. Over a short period of time, approximately one year, there is a greater amount of change in the teachers' behavior than in the behavior of the principals.

Discussion

Seventy-five of the eighty-eight schools in the sample, or 85.2 per cent, had the same principal in 1965 and 1964. Thus, only thirteen schools, or 14.8 per cent, had a new principal in 1965. From Table IV, it may be seen that 77.0 per cent of the schools in the sample had three or more new teachers on the staff in 1965.

With this in mind, it seems reasonable to suggest that a considerable part of the significant difference between the means of the amount of change for the two groups of subtests is due to this much higher percentage of schools with three or more new teachers. Thus, the greater amount of change measured in the teachers' behavior is probably due to the fact that not only had the sample of teacher respondents changed more than the sample of principal respondents, but also the social group within which the teachers were reacting had changed more.

Although not significant at the .05 level of confidence, it was

noted in testing the previous hypothesis that some of the subtests change more than others and that the subtest Intimacy changed relatively more than the other subtests. In attempting an explanation of this finding, it was useful to examine the items which constitute this subtest. These items are:

1. Teachers' closest friends are other faculty members at this school.
2. Teachers invite other faculty members to visit them at home.
3. Teachers know the family background of other faculty members.
4. Teachers talk about their personal life to other faculty members.
5. Teachers have fun socializing together during school time.
6. Teachers work together preparing administrative reports.
- 7. Teachers prepare administrative reports by themselves.⁶

An examination of these items reveals that a group of teachers who possess these characteristics visit each other in their homes, exchange confidences and personal information and, at the same time, are a closely-knit group. The fact that the group is closely-knit makes one realize that the introduction of new staff members would account for a relatively greater amount of change in this subtest.

Therefore, the finding that this subtest changed relatively more may be explained by the fact that over three-quarters of the schools in

⁶A. W. Halpin and Don B. Croft, The Organizational Climate of Schools (University of Chicago: Midwest Administration Center, 1963), p. 30.

the sample had three or more new teachers on the staff. This, in turn, may be part of the explanation for the greater amount of change in the mean of the four subtests measuring the teachers' behavior as compared to the amount of change in the mean of the four subtests measuring the principal's behavior.

II. HYPOTHESES CONCERNING RELATIONSHIPS BETWEEN CHARACTERISTICS OF THE SCHOOLS AND CHANGES IN SCHOOL ORGANIZATIONAL CLIMATE

Hypotheses Numbers Five and Six

Null hypotheses five and six are stated as follows: (5) there are no significant differences between schools in five categories of school size when the amount of change in school climate is dichotomized, and (6) there are no significant differences between schools in four categories of schools according to grade levels when the amount of change in school climate is dichotomized.

All data required to test these hypotheses were obtained from the Principal's Questionnaire A. The amount of change in the subtests was determined and dichotomized as noted previously for hypothesis number two (page 73). To determine school size for hypothesis number five, the nine classifications of schools were regrouped into five groups according to the following number of full-time teachers in the school: (1) less than 15 teachers numbered 29 schools; (2) 15 - 19 teachers, 20 schools; (3) 20 - 24 teachers, 11 schools; (4) 25 - 29 teachers, 15 schools; (5) 30 or more teachers, 13 schools. For testing hypothesis number six, the four classifications of schools according to grades as reported in Table II, Chapter IV were used. These were as follows:

(1) elementary schools, containing grades one to eight, numbered 31, (2) 15 schools were elementary-junior high schools containing grades one to nine, (3) combined schools, containing grades one to eleven or twelve totalled 17, and (4) secondary schools, containing junior high grades or senior high grades or some combination of the two, numbered 25.

Table XX shows the results of the chi square tests for the significance of the difference for these hypotheses.

TABLE XX

CHI SQUARE TEST OF THE SIGNIFICANCE OF THE DIFFERENCES BETWEEN
CERTAIN CHARACTERISTICS OF THE SCHOOLS AND THE AMOUNT OF
CHANGE IN SCHOOL ORGANIZATIONAL CLIMATES

Hypothesis No.	Characteristic	Chi Square	Level of Significance
5	School size	3.04	NS
6	School type	1.90	NS

The values of chi square required at the .05 level of confidence with four and three degrees of freedom are 9.49 and 7.82 respectively. Since both values of chi square determined were well below those required, the null hypotheses relating school size and type with amount of change were accepted. There is no reason to assume a relationship between school size or type and the amount of change in organizational climate.

Discussion

Since four different types of schools were represented in the

sample of this study, it was hypothesized that there might be differences in the amount of change among these four types (Table II). Andrews recently identified certain Climate "sets" or characteristic tendencies toward a high or low condition on the various climate subtests for these four types of schools. For example, he described elementary schools, grades 1-6 or 8, as tending toward very low Disengagement, high Esprit, low Intimacy and low Consideration. On the other hand, secondary schools, grades 7 or 9 to 9 or 12, were marked by high Production Emphasis and low Esprit.⁷ However, strong these tendencies are, they did not influence the amount of change as measured in this study. Also, size of school was considered an important variable which might have influenced the amount of change. Although the schools ranged in size from five teachers to more than fifty teachers, the results of this study indicate no significant difference between school size and amount of change. However, it should be kept in mind that a study over a longer time interval might indicate the importance of these factors.

III. HYPOTHESES CONCERNING RELATIONSHIPS BETWEEN CHARACTERISTICS OF THE PRINCIPALS OF THE SCHOOLS AND CHANGES IN SCHOOL ORGANIZATIONAL CLIMATE

Hypotheses Numbers Seven, Eight, Nine and Ten

Since null hypotheses seven, eight, nine and ten relate characteristics of the principals to the amount of change in the

⁷J. H. M. Andrews, "What School Climate Conditions are Desirable," The Council on School Administration Bulletin, XIV:5 (July, 1965), 4-20.

organizational climate of the schools, they may be combined and stated as follows: there are no significant differences in the distribution of principals according to (7) six categories of age, (8) five categories of years of experience as a principal, (9) four categories of years of education, and (10) two categories regarding graduate work in educational administration and the amount of change in organizational climate of the schools dichotomized.

All data for these tests were obtained from the Principal's Questionnaire A. For each of the above hypotheses the amount of change was determined and dichotomized as noted previously for hypotheses numbers two, five and six. Also, as indicated in the above statements, in order to have expected frequencies of sufficient amount, i.e., no more than 20 per cent of the categories with less than five principals, regrouping of the classifications given in Chapter IV, Tables VI, IX, VII, and VIII respectively, was necessary. For example, the categories for hypothesis number ten were combined into two groups; forty-two principals with no graduate university courses in administration and forty-four principals with some courses in administration or hold a graduate degree in educational administration.

The chi square test of significance with the appropriate contingency matrix was applied to the data. Table XXI illustrates the results of these tests. Only null hypothesis number nine was rejected at the .05 level of confidence.

Therefore, null hypotheses numbers seven, eight and ten are accepted. There is no direct relationship between age, experience as a

TABLE XXI

CHI SQUARE TESTS OF THE SIGNIFICANCE OF THE DIFFERENCES BETWEEN
CERTAIN CHARACTERISTICS OF THE PRINCIPALS AND THE AMOUNT
OF CHANGE IN SCHOOL ORGANIZATIONAL CLIMATES

Hypothesis No.	Characteristic	Chi Square	Level of Significance
7	Age	2.89	NS
8	Experience	3.02	NS
9	Education	8.42	.05
10	Graduate Work	0.76	NS

principal, the number of graduate courses in educational administration and the amount of change in organizational climate of the schools. Since the chi square value of 8.42, for null hypothesis number nine, exceeded the critical value of 7.82 required at the .05 level of confidence it may be concluded that there is a relationship between the years of education of the principals and the amount of change of school organizational climate. This relationship is illustrated in Table XXII.

TABLE XXII

RELATIONSHIP BETWEEN YEARS OF TRAINING OF PRINCIPALS AND AMOUNT OF
CHANGE IN SCHOOL ORGANIZATIONAL CLIMATE

Amount of Change	Years of Education				Totals
	2 - 3	4	5	6	
High	3	18	4	19	44
Low	6	12	13	12	43
Totals	9	30	17	31	87 ^a

^aData unavailable for one school.

To determine the magnitude of this relationship, the contingency coefficient $C = .29$ was calculated; this indicates that C is significantly different from zero. Therefore, the relationship between the years of education of the principals and the amount of change in school organizational climate is significantly different from zero. Since C is positive, there may be a direct relationship between these two variables; however, the exact nature of this relationship is difficult to determine from the data in Table XXII.

Discussion

If we assume that organizational change, as indicated by the amount of change in organizational climate, depends upon effective principal leadership, then it may be suggested that the characteristics of the principals as reported above are not necessarily good criteria for measuring effective leadership. For example, it is a commonplace assumption that length of service is a good criterion in the evaluation of an effective principal. But is the length of service an adequate index?

In a recent study of five hundred principals in 41 large American cities, Gross⁸ reported that there was no correlation between the length of service and the indices of a good principal, as both seen

⁸Neal Gross, "Some Research Findings of the National Principalship Study and Their Implications for Educational Change" (paper delivered before the Inter-City Schools Project, Developmental Conference sponsored by Boston University, July 15-19, 1964). As cited in Robert Chin, "Change and Human Relations," Bureau of School Service Bulletin, XXXVIII:2 (Lexington: University of Kentucky Press, December, 1965), 18-27.

by the teachers and as scaled by his constructed index of educational leadership. In fact, he found that many of the "common sense" correlates of the constructed measure of Executive Professional Leadership were not related to length of tenure. Also, there was no correlation between previous teaching experience, service as assistant or as vice-principal, or number of undergraduate and graduate courses in education. Gross also added that "the fewer the courses in educational administration, and the younger his age, the greater is the score of the principal on Executive Professional Leadership:"⁹

Although it cannot be generalized from the present study that there is an indirect relationship between the age of the principal and the number of courses in educational administration, and the amount of change in organizational climate, where the characteristics measured in the two studies are comparable, with one exception, the results were similar. The exception is that this study reported a significant relationship between years of education and the amount of change in organizational climate.

This difference in findings might be related to the fact that almost 90 per cent of the sample of principals had four or more years of education (Table VII). Although this sample of principals is fairly representative of Alberta principals, it is probably highly selective, particularly with regard to years of education, when compared to a much larger population of American principals. However, this difference does raise interesting questions such as: To what extent does the type of

⁹Ibid., p. 19.

education Alberta principals receive, influence their effectiveness as leaders for organizational change? Certainly this is an area for further and more detailed investigation in the future.

To conclude, what then are good criteria for measuring effective leadership in changing the school organization? One author, Chin, believes that an elementary school principal "who can develop other people's ideas through working with them as well as being the initiator" and who has abilities in the area of human relations, is considered to be high in executive professional leadership.¹⁰

IV. HYPOTHESES CONCERNING RELATIONSHIPS BETWEEN OTHER FACTORS OR CHANGES IN THE SCHOOL AND CHANGES IN SCHOOL ORGANIZATIONAL CLIMATE

Hypotheses numbers eleven to fourteen of this section were designed to find out if the tenure of the principal or staff turnover were related to changes in the amount or the direction of change in the organizational climate of the schools. Data from the OCDQ and the Principal's Questionnaire A were used for this analysis.

The remaining hypotheses, numbers fifteen to eighteen, were an attempt to follow up the activities of the principals after their attendance at the 1964 climate clinics. The data to test these hypotheses were obtained from seventy-five Principal's Questionnaire B, which were sent out and returned by the principals before they were aware of the

¹⁰ Ibid.

results of this year's (1965) climate clinics. Although there were ninety-nine respondents to this questionnaire, thirteen of these were from principals who had not been the principal in the school the previous year (1963-64) and eleven were from principals of schools which had not participated in the 1964 CSA clinic on organizational climate. A summary of the comments reported by the seventy-five principals who participated in both years, 1964 and 1965, is presented in Table XXXIII at the end of the chapter.

Hypothesis Number Eleven

The eleventh null hypothesis stated that there were no significant differences in the eight subtest scores of the OCDQ between 1964 and 1965 when the principal's tenure and the direction of change of the subtests were dichotomized.

This hypothesis was tested by using the chi square formula mentioned previously and a 2 x 2 contingency table for each of the eight subtests of the OCDQ. The principal's tenure dimension of each table was determined by dichotomizing the sample of principals into a group of forty-three principals who held their present position for four years or less and a group of forty-five principals with five or more years tenure in their present position. The direction of change dimension of each of these tables was calculated as described in Chapter V. The results are presented in Table XXIII.

Of the eight tests carried out, only the portion associated with the subtest Hindrance was rejected. The chi square value of 7.85 for this subtest was well above the 3.84 necessary for significance at the

TABLE XXIII

CHI SQUARE TESTS OF THE SIGNIFICANCE OF THE DIFFERENCES IN THE EIGHT SUBTESTS OF THE OCDQ BETWEEN 1964 AND 1965 WHEN THE PRINCIPAL'S TENURE AND THE DIRECTION OF CHANGE OF THE SUBTESTS WERE DICHOTOMIZED

Subtest	Chi Square	Level of Significance
Disengagement	2.87	NS
Hindrance	7.85	.01
Esprit	0.00	NS
Intimacy	0.19	NS
Aloofness	1.13	NS
Production Emphasis	1.72	NS
Thrust	0.00	NS
Consideration	1.62	NS

.05 level of confidence. Thus, there is a direct relationship between the tenure of the principals and directional change in only one of the subtests, Hindrance. The observed frequencies for this relationship are shown in Table XXIV.

TABLE XXIV

RELATIONSHIP BETWEEN TENURE OF PRINCIPALS AND INCREASE OR DECREASE IN THE SUBTEST HINDRANCE

Direction of Change in Hindrance	Tenure of Principals		Totals
	High	Low	
Increase	27	13	40
Decrease	18	30	48
Totals	45	43	88

In order to determine the magnitude of this relationship, a phi coefficient value of .30 was calculated.¹¹ This indicates a positive relationship between these variables. Thus, high tenure is associated with an increase in Hindrance and low tenure with a decrease.

Discussion

It appears from this finding that principals with high tenure are viewed by the teachers to be increasing the burdensome, routine duties and other busy-work associated with operating the school. Typical items such as: (a) routine duties interfere with the job of teaching, and (b) teachers have too many committee requirements, are of this nature.¹²

At this point it could be argued that the principal, over the period of years, develops an organizational structure which to him is efficient and smooth-running, but may be perceived by the teachers to be high in routine duties, committee demands, and other busy-work which hinders their effectiveness in the teaching-learning process.

Administrators should be aware of this difference in perception which apparently occurs over a period of years. For as MacKay aptly stated, ". . .the kind of balance which an administrator can maintain between the rational, programmed aspects of organizational structure, and the need for flexibility at the operating level of a professionally staffed organization, is one of the ultimate tests of the effectiveness

¹¹Ferguson, op. cit., pp. 196-99.

¹²Halpin and Croft, op. cit., p. 30.

of his administrative behaviour."¹³

This is an interesting finding which has implications for those principals who have high tenure and a desire to change the organizational climate in the school.

Hypothesis Number Twelve

This null hypothesis stated that no significant differences in the means of the absolute differences for the eight subtests occur when the tenure of the principal was dichotomized.

The principals of forty-three schools had their present position for four years or less. On the other hand, forty-five school principals had held their principalship five or more years. The absolute differences of each of the eight subtests of the OCDQ were dichotomized into the above groups and t-tests were used to test the significance of the differences of the means of these groups. The results are illustrated in Table XXV.

With eighty-six degrees of freedom the critical value required was 1.980. Thus, none of these t-tests was significant at the .05 level of confidence. This indicates that there is no significant relationship between the tenure of the principals and the amount of change in each of the OCDQ subtests.

Discussion

The t-values for Esprit, Intimacy, Aloofness, Production Emphasis

¹³D. A. MacKay, "Should Schools Be Bureaucratic," The Canadian Administrator, IV:2 (November, 1964), 8.

TABLE XXV

MEANS, STANDARD DEVIATIONS AND T-VALUES FOR ABSOLUTE DIFFERENCES
BETWEEN 1964 AND 1965 OF THE OCDQ SUBTESTS DICHOTOMIZED
ACCORDING TO PRINCIPAL'S TENURE

Subtests	Means of Groups		Standard Deviations of Groups		t	Level of Significance
	Low (N=43)	High (N=45)	Low	High		
Disengagement	8.23	6.90	6.51	5.92	0.993	NS
Hindrance	7.42	7.75	5.43	5.55	0.284	NS
Esprit	7.12	5.85	5.42	4.38	1.198	NS
Intimacy	9.58	7.95	6.38	5.96	1.228	NS
Aloofness	8.40	6.76	5.76	5.31	1.368	NS
Prod. Emphasis	7.52	6.09	5.77	5.24	1.203	NS
Thrust	7.27	6.28	4.86	4.00	1.027	NS
Consideration	8.68	8.03	5.93	6.50	0.485	NS

and Thrust are all closer to significance than the other t-values. At the same time the mean amount of change for each of these subtests is greater in each case for the group of principals with low tenure. This could indicate that there is a tendency for low tenure to be associated with an increased amount of change in these subtests. Part of this tendency might be explained by the fact that thirteen of the forty-three principals with low tenure were principals with less than one year of tenure. However, this is a conjecture and cannot be confirmed by this study.

Hypothesis Number Thirteen

The thirteenth hypothesis stated that there were no significant differences in the eight subtest scores of the OCDQ between 1964 and 1965 when the staff turnover and the direction of change of the subtests were dichotomized.

This hypothesis was tested by applying the same treatment as that used in testing hypothesis eleven, i.e., 2 x 2 contingency tables for each of the eight subtests and the chi square formula. The results of this treatment are outlined in Table XXVI.

TABLE XXVI

CHI SQUARE TESTS OF THE SIGNIFICANCE OF THE DIFFERENCES IN THE EIGHT SUBTESTS OF THE OCDQ BETWEEN 1964 AND 1965 WHEN THE STAFF TURNOVER AND THE DIRECTION OF CHANGE OF THE SUBTESTS WERE DICHOTOMIZED

Subtest	Chi Square	Level of Significance
Disengagement	1.28	NS
Hindrance	6.58	.02
Esprit	2.27	NS
Intimacy	0.16	NS
Aloofness	0.09	NS
Production Emphasis	1.15	NS
Thrust	0.48	NS
Consideration	1.87	NS

These results are similar to those obtained for hypothesis number eleven. The difference is that this test concerns staff turnover and direction of subtest change. Again, the only section of the hypothesis rejected concerned the subtest Hindrance. The chi square of 6.58 for this subtest was well above the 3.84 necessary for significance at the .05 level of confidence. Thus, there is a relationship between staff turnover and directional change in the subtest Hindrance.

The observed frequencies for this relationship are shown in Table XXVII.

Further analysis resulted in a phi coefficient of $-.28$. This

TABLE XXVII

RELATIONSHIP BETWEEN STAFF TURNOVER AND INCREASE OR DECREASE IN
THE SUBTEST HINDRANCE

Direction of Change In Hindrance	Staff Turnover		Totals
	High	Low	
Increase	12	28	40
Decrease	27	20	47
	39	48	87 ^a

^aData unavailable for one school.

indicates a negative relationship between staff turnover and the direction of change in the subtest Hindrance. Thus, high staff turnover is associated with a decrease in Hindrance; on the other hand, low staff turnover with an increase in Hindrance.

Discussion

In schools where there was a lower staff turnover, attempts by the principals to change the organizational climates may have been perceived as Hindrance. On the other hand, in schools where there was a large proportion of new staff members, the staff members were probably expecting a certain number of routine administrative demands and did not perceive these demands as Hindrance.

Hypothesis Number Fourteen

The fourteenth hypothesis stated that there were no significant differences in the means of the absolute differences for the eight

subtests in 1965 when the staff turnover was dichotomized.

In order to test this hypothesis, the absolute differences between 1964 and 1965 of the eight subtests of the OCDQ were dichotomized into groups according to the following: forty-eight of the schools had from one to four teachers on the staff with less than one full year's experience as a teacher in that particular school (low turnover); the remaining thirty-nine schools had five or more teachers on the staff with less than one full year's experience in the school (high turnover).¹⁴ T-tests were completed to test the significance of the difference between the means of these groups. Table XXVIII outlines the significance of the t-tests performed.

A critical value of 1.980 is required for rejection of the null hypothesis at the .05 level of confidence (two-tailed test). Of the eight t-tests performed, only one, associating amount of change (as measured by the absolute differences) in the subtest Disengagement and staff turnover was significant.

This indicates that the amount of change in Disengagement, or the feeling that the group is only "going through the motions," or "not with it" in terms of the tasks at hand, is related directly to the staff turnover in the school. The mean for the group with the greater staff turnover, i.e., the group which had five or more teachers on the staff with less than one full year of experience in the school, is 3.28 units greater than the mean for the other group. Thus, we may conclude that the amount of change in the subtest Disengagement varies directly as

¹⁴Data was unavailable for one of the schools.

TABLE XXVIII

MEANS, STANDARD DEVIATIONS AND T-VALUES FOR ABSOLUTE DIFFERENCES
BETWEEN 1964 AND 1965 OF THE OCDQ SUBTESTS DICHOTOMIZED
ACCORDING TO STAFF TURNOVER

Subtests	Means of Groups		Standard Deviations		t	Level of Significance
	Low Turnover (N=48)	High Turnover (N=39)	Low Turnover	High Turnover		
Disengagement	6.12	9.40	5.24	6.93	2.484	.02
Hindrance	7.14	8.20	5.35	5.67	0.881	NS
Esprit	5.96	7.18	4.59	5.33	1.125	NS
Intimacy	8.16	9.37	6.18	6.26	0.898	NS
Aloofness	6.53	8.85	5.52	5.50	1.929	NS
Prod. Emphasis	6.66	7.08	6.29	4.49	0.348	NS
Thrust	7.11	6.23	4.34	4.58	0.900	NS
Consideration	9.16	7.54	6.16	6.16	1.206	NS

staff turnover. The greater the staff turnover in the schools, the greater the amount of change in Disengagement. This is an increase in the absolute amount of change in Disengagement regardless of the algebraic direction.

Although the other seven sections of this null hypothesis were accepted at the .05 level of confidence, it should be noted here that the relationship between the means of the groups for the subtest Aloofness was very close to being significant.

It was expected that large schools would tend to have high staff turnover and small schools low staff turnover. This relationship is illustrated in Table XXIX. A highly significant chi square value of 10.61 (probability between .01 and .001) was calculated from this data.

With this significant relationship in mind, it was decided to

TABLE XXIX
RELATIONSHIP BETWEEN STAFF TURNOVER AND SIZE OF THE SCHOOL

Size of School	Staff Turnover		Totals
	High	Low	
Large	25	14	39
Small	14	34	48
Totals	39	48	87 ^a

^aData unavailable for one school.

dichotomize the data on the basis of school size; thirty-nine schools with twenty or more teachers (large schools), and forty-eight schools with from five to nineteen teachers (small schools).

Tables XXX and XXXI outline the results of the t-tests performed when the school size was considered. An analysis of Table XXX indicated that in large schools the mean of the absolute differences for the subtest Aloofness was significantly greater in the schools with high staff turnover than in the schools with low staff turnover. Also, although not significant at the .05 level of confidence for a two-tailed test, the mean of the absolute differences for the subtest Disengagement was greater in the schools with high staff turnover (probability between .05 and .10).

On the other hand, Table XXXI indicated that in small schools none of the relationships between the means for the absolute differences for the eight subtest scores were significant. However, the mean of the absolute differences for the subtest Disengagement was nearly statistically significant (probability between .05 and .10).

TABLE XXX

MEANS, STANDARD DEVIATIONS AND T-VALUES FOR ABSOLUTE DIFFERENCES
BETWEEN 1964 AND 1965 OF THE OCDQ SUBTESTS DICHOTOMIZED
ACCORDING TO STAFF TURNOVER IN LARGE SCHOOLS

Subtests	Means of Groups		Standard Deviations		t	Level of Significance
	Low Turnover (N=14)	High Turnover (N=25)	Low Turnover	High Turnover		
Disengagement	5.60	8.83	4.62	5.57	1.797	NS
Hindrance	5.89	8.36	4.73	6.10	1.277	NS
Esprit	4.32	6.21	4.43	4.38	1.258	NS
Intimacy	8.26	9.71	5.90	6.81	0.647	NS
Aloofness	4.99	8.77	3.49	5.69	2.200	.05
Prod. Emphasis	6.10	7.03	6.10	4.78	0.514	NS
Thrust	8.18	6.41	4.23	5.09	1.076	NS
Consideration	9.53	7.78	6.77	5.93	0.818	NS

TABLE XXXI

MEANS, STANDARD DEVIATIONS AND T-VALUES FOR ABSOLUTE DIFFERENCES
BETWEEN 1964 AND 1965 OF THE OCDQ SUBTESTS DICHOTOMIZED
ACCORDING TO STAFF TURNOVER IN SMALL SCHOOLS

Subtests	Means of Groups		Standard Deviations		t	Level of Significance
	Low Turnover (N=34)	High Turnover (N=14)	Low Turnover	High Turnover		
Disengagement	6.34	10.43	5.46	8.76	1.910	NS
Hindrance	7.66	7.91	5.50	4.82	0.145	NS
Esprit	6.64	8.89	4.48	6.35	1.362	NS
Intimacy	8.11	8.78	6.28	5.08	0.346	NS
Aloofness	7.17	9.00	6.05	5.13	0.974	NS
Prod. Emphasis	6.89	7.16	6.35	3.90	0.148	NS
Thrust	6.67	5.92	4.32	3.46	0.561	NS
Consideration	9.01	7.13	5.89	6.54	0.957	NS

Discussion

It is interesting to note that for the total sample of schools, where the staff turnover was higher there was a significant increase in the mean absolute difference for the subtest Disengagement. This suggests that school size was not an important factor in this relationship. However the finding that in only large schools the mean absolute difference for the subtest Aloofness increased with an increase in staff turnover, suggested that school size was an important factor in this case.

These results should be interpreted with caution as this measurement of change is an absolute measurement and not a directional change. Therefore, with the information available, it cannot be determined whether this increase is positive or negative in direction. From a theoretical point of view, it is likely that an increase in staff turnover is related to a positive increase in both Disengagement, all schools, and Aloofness, large schools; however, at this time this conclusion cannot be verified. But, these results have implications for further study.

Hypotheses Numbers Fifteen, Sixteen, Seventeen and Eighteen

Null hypotheses fifteen, sixteen, seventeen and eighteen relate certain activities of the principals and the amount of change in organizational climate. They were stated as follows: No significant differences in the distribution of schools occurred in (15) the categories that the principal presented or did not present information from the 1964 climate clinic to his staff and the amount of change

dichotomized, (16) the categories of the amount of time the principal devoted to presenting information from the 1964 climate clinic and the amount of change dichotomized, (17) the categories that the principal undertook or did not undertake to change the organizational climate of the school and the amount of change dichotomized, and (18) the categories that the principal attempted to change his behavior or did not attempt to do so, and the amount of change dichotomized.

The chi square test of significance with 2 x 2 contingency tables were used to analyse the data for these hypotheses. The results of this treatment are outlined in Table XXXII.

TABLE XXXII

CHI SQUARE TESTS OF THE SIGNIFICANCE OF THE DIFFERENCES BETWEEN CERTAIN ACTIVITIES OF THE PRINCIPALS AND THE AMOUNT OF CHANGE IN THE ORGANIZATIONAL CLIMATES OF THE SCHOOLS DICHOTOMIZED

Hypothesis No.	Chi Square	Level of Significance
15	0.21	NS
16	1.77	NS
17	0.35	NS
18	1.77	NS

None of the four null hypotheses was rejected. With the acceptance of these four hypotheses, it may be assumed that none of the activities the principals undertook to change the organizational climates of the school had a relationship to the changes that have taken place.

V. SUMMARY OF RESPONSES TO PRINCIPAL'S QUESTIONNAIRE B

This questionnaire was an attempt to reveal some of the activities that had taken place in the schools between the 1964 and 1965 climate clinics. Seventy-five principals who had been principals the previous year responded. Table XXXIII summarizes the percentage of yes or no responses to the respective questions.

TABLE XXXIII
PERCENTAGE RESPONSES TO PRINCIPAL'S QUESTIONNAIRE B

Question	Percentage of Responses	
	Yes	No
2(a) Did you present information from the 1964 clinic concerning the organizational climate of your school to your staff?	75%	25%
3(a) Did you undertake any activities in an effort to change the organizational climate of the school?	32	68
4(a) Did you attempt to modify your own behavior in an attempt to change the organizational climate of the school?	45	55
5(a) In your opinion, are there any other factors or circumstances which have influenced the organizational climate of your school in the past year?	70	30

From this table it may be seen that 75 per cent of the principals presented information from the 1964 climate clinics to the staff. In their efforts to change the organizational climate of the school, 32 per cent of the principals undertook various activities and 45 per cent attempted to modify their own behavior. On the other hand, 70 per cent

of the principals reported that there were other factors or circumstances which may have influenced the organizational climate of the school in the past year.

The responses to the remainder of the questions were many and varied. Information concerning the 1964 climate clinic was most frequently presented in the following ways: (1) holding staff meetings and informal discussions separately and together, (2) presenting copies of the clinic results to the teachers, and (3) holding discussions with assistant principals or other administrative personnel. The mean amount of time taken to present this information was one and three-quarters hours with a range of from one-half hour to six hours. Activities undertaken in an effort to change the organizational climate of the schools were: (1) more consideration of the teachers, including more discussion of problems and plans with the staff, more individual classroom visits and class supervision, (2) more teacher participation in staff meetings, (3) more clerical help, (4) improved communication between staff and administration, and (5) more experimentation among the classes, such as team teaching. In an attempt to modify their own behavior in order to change the organizational climate of the schools, the most frequent responses of the principals included: (1) more teacher involvement in making plans and programs, (2) more attention given to teacher needs as individuals and as a group, (3) changes in relationship of administration and staff, (4) procedural changes in staff meetings, and (5) better communication between the administration and the staff and among staff members as a group. Other factors or circumstances

which the principals felt might have influenced the organizational climate of the schools and other information which might account for the similarities or differences in the results of the two climate surveys were summarized as follows: (1) new staff members, (2) changes in school size, new schools or additional classrooms and departments, (3) more experimentation in classrooms, (4) changes of assistant principal, and (5) different members participating in the survey each year.

In summary, about one-half of the principals attempted to change the organizational climate in some way. These attempts were many and varied. They may have improved the organizational climate of the schools; however, these attempts were not significantly related to the amount of change in organizational climate as measured in this study.

CHAPTER VI

SUMMARY, CONCLUSIONS AND IMPLICATIONS

The purposes of this study were to analyse the changes that have occurred in the organizational climates of Alberta schools and to determine the stability of OCDQ measures and categorizations. In order to carry out these purposes, eighteen hypotheses were developed and tested. The preceding chapter outlined the procedures followed in analysing the data related to these hypotheses and reported the results of these treatments. This chapter summarizes the findings of this analysis, briefly outlines the conclusions of the study, suggests some implications and lists a number of specific recommendations for further study.

I. SUMMARY

The results of the analysis of the data will be summarized in three sections. The first section will discuss the findings of the first four hypotheses which were concerned with the relationships between school organizational climate for 1964 and 1965. The results of the statistical tests carried out on six hypotheses to determine the relationships between some characteristics of the schools and the principals and the amount of change in organizational climate will be discussed in the second section. The third section will summarize the findings of the last eight hypotheses designed to show relationships between changes in the direction and the amount of change in the

organizational climate and other factors or changes in the schools.

Summary Related to Relationships Between Organizational Climates in 1964 and 1965

A total of four hypotheses were tested to determine the relationships between the school organizational climates in 1964 and 1965. The results of the analysis for the first hypothesis were that all eight of the subtests had significant positive correlations for the two consecutive years. This indicates that the OCDQ has fairly high stability which makes the instrument particularly useful for further research. In addition, there was a significant positive relationship between the 1964 and 1965 climate classifications.

The analysis of the changes in organizational climates associated with the four different types of schools may be summarized as follows: Elementary-Junior High schools, there appeared to be a movement toward the center of the continuum; Elementary schools, no general trend was apparent; Secondary schools, there were twice as many closed climates in 1965 as there were in 1964; Combined schools, a decrease in the number of closed climates.

In comparing the overall changes associated with the four different types of schools between 1964 and 1965, there appeared to be a slight trend toward more openness in the organizational climates of the schools in the sample. However, it was pointed out that this is subject to the confounding effect of uncontrolled variables and therefore is a highly speculative interpretation which may have implications for further research.

The chi square test of independence, employed in the analysis of the second hypothesis, indicated that no significant relationship existed between openness of the climates and the amount of change in these climates.

To determine if some of the subtest scores change more than others, the mean amount of change for each of the subtests was calculated. The subtest Intimacy changed the most over the period of one year and the subtest Esprit changed the least. The t-test used to calculate the significance of the difference between the means for these two subtests indicated that the difference was not significant. A one-way analysis of variance also indicated that the differences among means of the absolute differences of the subtests were not significant at the .05 level of confidence. However, these differences were significant at the .10 level of confidence. Since the .05 level of confidence was established as the critical value for acceptance or rejection of the null hypotheses for this study, there were no significant differences among the means of the absolute differences of the eight subtests of the OCDQ for 1964 and 1965. However, there may be a slight indication that some of the subtests do change more than others. Further research over a longer period of time may determine the significance of these changes to a much greater degree than this study has shown.

The last hypothesis of this section was designed to reveal if there was a significant difference in the amount of change between the four subtests measuring the principal's behavior and the four subtests measuring the teachers' behavior. A t-test indicated that the significance of this difference to be at the .02 level of confidence. The mean

amount of change for the group of subtests measuring the teachers' behavior, i.e, Disengagement, Hindrance, Esprit and Intimacy, was greater than the corresponding mean of the group of subtests measuring the principal's behavior. It was suggested that the relatively high number of new teachers on the staff may account for this difference. Further to this, a closer look at the subtest Intimacy, which changed relatively more than the other subtests, indicated that part of the change may be due to changes in this subtest.

Summary Related to Relationships Between School and Principal

Characteristics and the Amount of Change in Organizational Climate

These six hypotheses related size of school, type of school, age, years of experience, years of education and amount of graduate work in educational administration to the amount of change in the organizational climate of the school. The chi square test of independence indicated that there was no relationship between the amount of change in organizational climate and the size of school, type of school, age, years of experience or the amount of graduate work in educational administration. However, this test indicated that there was a significant relationship between the amount of change in school organizational climate and the years of education of the principal.

Also, a contingency coefficient significantly different from zero, implied a positive relationship between these two variables. Therefore, we may conclude that the amount of change varies directly as the years of education of the principal, i.e., the greater the years of education of the principal, the greater the amount of change in the

organizational climate of the school.

In the discussion associated with this hypothesis, mention was made of the fact that this relationship was probably due to the nature of the sample. With this in mind, a suggestion was made that a more detailed investigation be made into the relationship between the nature of the education Alberta principals receive and their effectiveness as leaders for organizational change. Finally, it was suggested that the criteria used in this study and other similar studies may not be the most appropriate criteria for measuring effective principal leadership in changing school organizational climate.

Summary Related to Relationships Between Changes in the Direction and Amount of Change in the Organizational Climate and Other Factors or Changes in the Schools

The first of four hypotheses, number eleven, stated that there is a direct relationship between the principal's tenure in the school and the direction of changes in the subtest scores between 1964 and 1965. The chi square test of independence disclosed a direct relationship between the tenure of the principals and the directional change in only one of the subtests, Hindrance. The phi coefficient indicated that this relationship was positive in direction. The principals with high tenure were perceived by the teachers to have increased the Hindrance and the low tenure principals were perceived to have decreased the Hindrance.

The results of the t-tests carried out to test the twelfth hypothesis indicated that there was no significant relationship between the tenure of the principals and the amount of change in each of the

OCDQ subtests.

The thirteenth hypothesis stated that there was a direct relationship between the staff turnover and the direction of changes in the subtest scores between 1964 and 1965. Of the eight subtests treated by means of the chi square test for independence, only the direction of change in the subtest Hindrance was significantly related to staff turnover. The phi coefficient indicated that this relationship was negative in nature. In other words, the higher the staff turnover, a decrease in Hindrance; the lower the staff turnover, an increase in Hindrance.

This inverse relationship is in accordance with what might be expected from the findings of hypothesis number eleven. The results of the eleventh hypothesis indicated that the tenure of the principal was positively related to an increase in Hindrance. From this, it might be expected that the teachers who had the highest tenure would perceive this phenomena to a greater extent than those teachers who were newer to the staff.

The last of this set of four hypotheses, number fourteen, stated that there were no significant differences in the means of the absolute differences for the eight subtests in 1965 when the staff turnover was dichotomized. T-tests indicated that for the total sample of schools, staff turnover was significantly related to only one of the subtests, Disengagement. Since the mean amount of change for the group of schools with the greater staff turnover was significantly higher than the mean amount of change for the group with lower staff turnover, it was concluded that as the staff turnover increased, the amount of change

in the subtest Disengagement increased.

Upon further analysis, with the sample of schools dichotomized, it was found that there was no significant increase in the amount of change for the subtest Disengagement in either the small or large schools with higher staff turnover. This suggested that school size was not an important influence on this relationship. On the other hand, the finding that in only the large schools an increased amount of change in the subtest Aloofness was related to high staff turnover, suggested that school size was important in this case. A word of caution was given concerning the interpretation of these results.

The last four hypotheses of this section, numbered fifteen to eighteen, were designed to investigate the follow-up activities of the principals after their attendance at the 1964 climate clinics. The chi square test of independence was used to analyse the hypotheses relating the amount of change in organizational climate and (15) the fact that the principal presented information from the 1964 climate clinic to his staff; (16) the amount of time the principal presented this information to his staff; (17) the fact that the principal undertook activities in an effort to change the organizational climate of the school; (18) the fact that the principal attempted to change his own behavior in an effort to change the organizational climate of the school. It was concluded that none of these follow-up activities of the principals had a significant relationship to the changes in organizational climate that had taken place.

Finally, a summary of the number and most frequent responses to the Principal's Questionnaire B was given.

II. CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

In this section of the chapter a number of conclusions, some implications and recommendations for further study are outlined.

Conclusion

1. The results of the statistical tests carried out to show relationships between school organizational climates for 1964 and 1965 indicated that the stability of the OCDQ is fairly high. Other studies have reported on the validity of the OCDQ; however, this is the first report confirming its high stability by the test-retest method over the period of one year. Although there appeared to be a slight trend toward more openness in the organizational climates of the schools in the sample, there was no significant relationship between openness of the climates and the amount of change in these climates.

2. It was found that the subtest Intimacy changed the most and the subtest Esprit changed the least. However, the differences among the means for the amount of change in the subtests were not significant. Also, over the period of about one year, the teachers' behavior changed more than the principal's behavior.

3. No significant relationship existed between the amount of change in organizational climate and either school size or type. However, years of education of the principal was indicated to be positively related to the amount of change in organizational climate.

4. The teachers perceived the principals with high tenure to have increased Hindrance and the principals with low tenure, decreased

Hindrance. This finding was reinforced and extended when it was revealed that the teachers with higher tenure perceived this phenomena to a greater extent than the teachers who were newer to the staff.

5. There was no significant relationship between the tenure of the principals and the amount of change in each of the OCDQ subtests. However, staff turnover was positively related to the amount of change in the subtest Disengagement. In large schools, twenty or more teachers, an increased amount of change in the subtest Aloofness was related to high staff turnover.

6. None of the follow-up activities of the principals were significantly related to the amount of change in organizational climate.

Implications

Some of the significant relationships suggest specific implications for administrative practice. For example, a principal who is desirous of changing the organizational climate of the school may concentrate his efforts on having more socializing, more informal meetings and better communication among the staff members, particularly among the new staff members. This is implied in the findings that over three-quarters of the schools had three or more new teachers, that the teachers' behavior changed more than the principal's behavior, and that some of the subtests, namely Intimacy, may change more than others.

The finding that high tenure of the principal was positively related to an increase in Hindrance has implications for those principals who have high tenure and a desire to change the organizational climate of the school. A principal with high tenure and these intentions

should make a careful investigation of the organizational structure of the school and decide on what methods can be employed to reduce the busy-work, routine duties and other hindrances to the teaching-learning process. He should also be aware that some of his efforts to improve school climate may have a negative effect if there are sudden changes in established behavior or procedures.

Finally, if a principal who is desirous of changing the organizational climate of the school realized that as staff turnover increases the amount of change in the subtest Disengagement increases, then he could attempt to explore this relationship and find out what can be done to change this dimension in the desired direction. Also, if a principal in a school of twenty or more teachers were aware that an increased amount of Aloofness was related to high staff turnover, then he could concentrate his efforts to change the organizational climate on this particular dimension. No doubt other specific implications may be suggested from this finding; however, at this time these are the most apparent.

Some of the findings of this study also have implications for further research. Since there were significant correlations between the OCDQ subtests and a significant positive relationship between the climate classifications for the two consecutive years, this study has added to the accumulation of data concerning the stability and reliability of the OCDQ. However, there was also an indication that some of the subtests, namely Thrust and Esprit, were more reliable than others. Therefore, efforts directed toward the accumulation of such

data should continue; further studies of the reliability and validity of the specific subtests would greatly add to our knowledge of the value of the OCDQ as a research instrument. A list of recommendations for specific studies is given below.

Recommendations

1. Further study of the stability of the OCDQ, particularly with the test-retest method over a longer period of time, should be made.

2. Studies over a longer period of time might investigate the possible trend toward more openness of climates in certain types of schools, the amount of change among the various subtests and the influence of school type and size on the amount of change in organizational climate.

3. It would be of interest not only to repeat the section of this study relating amount of change and years of education, but also to investigate the extent to which the type of training Alberta principals receive influences their effectiveness as leaders for organizational change. Further to this, studies using more appropriate criteria for measuring effective leadership in changing the school organizational climate would be of interest.

4. Other studies which attempt to relate specific teacher and principal behavior to subtest scores in order to make subtest scores useful in planning organizational climate change should be carried out.

Finally, it might be stated that there exist many possibilities for research relating the work of educational administrators to change in our educational institutions.

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APPENDIX A

ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE

ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE

Developed by

ANDREW W. HALPIN

and

DON B. CROFT

On the following pages is a list of items that are used to describe the organizational climate or the “personality” of your school. The items describe typical behaviors or conditions that occur within a school. Please indicate to what extent each of these descriptions characterizes **your school**. Please do **not** evaluate the items in terms of “good” or “bad” behavior but read each item carefully and respond in terms of how well the statement describes your school.

It is important that your answers be “independent,” so please do not discuss your answers with other teachers. Though there is no time limit, it will probably take you 15 to 20 minutes to complete.

Please be frank in your response with the assurance that individual responses are strictly confidential.

IDENTIFICATION: Please write the name and address of your school on the envelope provided for the completed questionnaire; do **NOT** write your name on this questionnaire.

Each questionnaire will be given a code number and all responses transferred to IBM cards for processing. Complete anonymity in the analysis of data and the reporting of findings is assured.

DIRECTIONS:

- a. READ each item carefully.
- b. THINK about how well the statement describes your school.
- c. DECIDE whether the behavior or condition described in the item occurs rarely, sometimes, often, or very frequently in your school.
- d. DRAW A CIRCLE around **one** of the four letters following the item to show the answer you have selected.

A=Very frequently occurs

B=Often occurs

C=Sometimes occurs

D=Rarely occurs

Please respond to EVERY item.

- | | | | | |
|---|---|---|---|---|
| 1. Teachers' closest friends are other faculty members at this school. | A | B | C | D |
| 2. The mannerisms of teachers at this school are annoying. | A | B | C | D |
| 3. Teachers spend time after school with students who have individual problems. | A | B | C | D |
| 4. Instructions for the operation of teaching aids are available. | A | B | C | D |
| 5. Teachers invite other faculty members to visit them at home. | A | B | C | D |
| 6. There is a minority group of teachers who always oppose the majority. | A | B | C | D |
| 7. Extra books are available for classroom use. | A | B | C | D |
| 8. Sufficient time is given to prepare administrative reports. | A | B | C | D |
| 9. Teachers know the family background of other faculty members. | A | B | C | D |
| 10. Teachers exert group pressure on non-conforming faculty members. | A | B | C | D |
| 11. In faculty meetings, there is the feeling of "let's get things done." | A | B | C | D |
| 12. Administrative paper work is burdensome at this school. | A | B | C | D |
| 13. Teachers talk about their personal life to other faculty members. | A | B | C | D |
| 14. Teachers seek special favors from the principal. | A | B | C | D |
| 15. School supplies are readily available for use in classwork. | A | B | C | D |
| 16. Student progress reports require too much work. | A | B | C | D |
| 17. Teachers have fun socializing together during school time. | A | B | C | D |
| 18. Teachers interrupt other faculty members who are talking in staff meetings. | A | B | C | D |
| 19. Most of the teachers here accept the faults of their colleagues. | A | B | C | D |
| 20. Teachers have too many committee requirements. | A | B | C | D |
| 21. There is considerable laughter when teachers gather informally. | A | B | C | D |
| 22. Teachers ask nonsensical questions in faculty meetings. | A | B | C | D |
| 23. Custodial service is available when needed. | A | B | C | D |
| 24. Routine duties interfere with the job of teaching. | A | B | C | D |
| 25. Teachers prepare administrative reports by themselves. | A | B | C | D |

26. Teachers ramble when they talk in faculty meetings.	A	B	C	D
27. Teachers at this school show much school spirit.	A	B	C	D
28. The principal goes out of his way to help teachers.	A	B	C	D
29. The principal helps teachers solve personal problems.	A	B	C	D
30. Teachers at this school stay by themselves.	A	B	C	D
31. The teachers accomplish their work with great vim, vigor, and pleasure.	A	B	C	D
32. The principal sets an example by working hard himself.	A	B	C	D
33. The principal does personal favors for teachers.	A	B	C	D
34. Teachers eat lunch by themselves in their own classrooms.	A	B	C	D
35. The morale of the teachers is high.	A	B	C	D
36. The principal uses constructive criticism.	A	B	C	D
37. The principal stays after school to help teachers finish their work.	A	B	C	D
38. Teachers socialize together in small select groups.	A	B	C	D
39. The principal makes all class-scheduling decisions.	A	B	C	D
40. Teachers are contacted by the principal each day.	A	B	C	D
41. The principal is well prepared when he speaks at school functions.	A	B	C	D
42. The principal helps staff members settle minor differences.	A	B	C	D
43. The principal schedules the work for the teachers.	A	B	C	D
44. Teachers leave the grounds during the school day.	A	B	C	D
45. Teachers help select which courses will be taught.	A	B	C	D
46. The principal corrects teachers' mistakes.	A	B	C	D
47. The principal talks a great deal.	A	B	C	D
48. The principal explains his reasons for criticism to teachers.	A	B	C	D
49. The principal tries to get better salaries for teachers.	A	B	C	D
50. Extra duty for teachers is posted conspicuously.	A	B	C	D
51. The rules set by the principal are never questioned.	A	B	C	D
52. The principal looks out for the personal welfare of teachers.	A	B	C	D
53. School secretarial service is available for teachers' use.	A	B	C	D
54. The principal runs the faculty meeting like a business conference.	A	B	C	D
55. The principal is in the building before teachers arrive.	A	B	C	D
56. Teachers work together preparing administrative reports.	A	B	C	D
57. Faculty meetings are organized according to a tight agenda.	A	B	C	D
58. Faculty meetings are mainly principal-report meetings.	A	B	C	D
59. The principal tells teachers of new ideas he has run across.	A	B	C	D
60. Teachers talk about leaving the school system.	A	B	C	D
61. The principal checks the subject-matter ability of teachers.	A	B	C	D
62. The principal is easy to understand.	A	B	C	D
63. Teachers are informed of the results of a supervisor's visit.	A	B	C	D
64. The principal insures that teachers work to their full capacity.	A	B	C	D

(OVER)

SOME INFORMATION ABOUT YOU AND YOUR SCHOOL

65. Number of teachers in your school, including the principal (check one):
..... (1) 4 or fewer
..... (2) 5 to 9
..... (3) 10 to 14
..... (4) 15 to 19
..... (5) 20 to 24
..... (6) 25 to 29
..... (7) 30 to 39
..... (8) 40 to 49
..... (9) 50 or more
66. What grades does your school include?
Check the one below which most closely describes your school.
..... (1) Gr. 1 to 6
..... (2) Gr. 1 to 8
..... (3) Gr. 1 to 9
..... (4) Gr. 1 to 11
..... (5) Gr. 1 to 12
..... (6) Gr. 7 to 9
..... (7) Gr. 7 to 12
..... (8) Gr. 9 to 12
..... (9) Gr. 10 to 12
67. How long have you been in your present school, including this year?
..... (1) 1 yr.
..... (2) 2 yrs.
..... (3) 3 or 4 yrs.
..... (4) 5 or 6 yrs.
..... (5) 7 to 8 yrs.
..... (6) 9 or 10 years
..... (7) 11 to 15 yrs.
..... (8) 16 to 20 yrs.
..... (9) 21 yrs. or more
68. How many years of teaching experience do you have, including the present year?
..... (1) 1 yr.
..... (2) 2 yrs.
..... (3) 3 or 4 yrs.
..... (4) 5 or 6 yrs.
..... (5) 7 or 8 yrs.
..... (6) 9 or 10 yrs.
..... (7) 11 to 15 yrs.
..... (8) 16 to 20 yrs.
..... (9) 21 yrs. or more
69. Your sex:
..... (1) Male
..... (2) Female
70. What is your age?
..... (1) under 24 yrs.
..... (2) 25-29 yrs.
..... (3) 30-34 yrs.
..... (4) 35-39 yrs.
..... (5) 40-44 yrs.
..... (6) 45-49 yrs.
..... (7) 50-54 yrs.
..... (8) 55-59 yrs.
..... (9) 60 yrs. and over
71. How many years of training are you credited with for salary purposes? (Please drop fractional years).
..... (1) 1 yr.
..... (2) 2 yrs.
..... (3) 3 yrs.
..... (4) 4 yrs.
..... (5) 5 yrs.
..... (6) 6 yrs.
72. Compared with other schools known to you, how good a job do you judge your school does in educating the students who come to it? (check one)
..... (1) outstanding
..... (2) very good
..... (3) slightly above average
..... (4) slightly below average
..... (5) poor
..... (6) very poor
73. If you are the principal please check here (1) and omit the next two items.
74. How well satisfied are you with all aspects of your teaching situation in your present school? (check one)
..... (1) enthusiastic
..... (2) satisfied
..... (3) fairly well satisfied
..... (4) somewhat dissatisfied
..... (5) dissatisfied
..... (6) very dissatisfied
75. How effective do you consider your principal to be in performing all the various functions which he should perform? (This item is for research purposes only and even averages of scores are strictly confidential).
..... (1) outstanding,
..... (2) very good
..... (3) slightly above average
..... (4) slightly below average
..... (5) poor
..... (6) very poor

76. 77. 78. 79. 80.

(Thank you. Write name and address of school on envelope)

APPENDIX B

PRINCIPAL'S QUESTIONNAIRE A

CSA CLINIC ON ORGANIZATION CLIMATE

PRINCIPAL'S QUESTIONNAIRE A

IDENTIFICATION: Please write the name of your school on the envelope provided for the completed questionnaire; do not write your name on this questionnaire.

Each questionnaire will be given an identifying code number and all responses transferred to IBM cards for processing. Complete anonymity in the analysis of data and the reporting of findings is assured.

Please reply to each item.

A. SCHOOL CHARACTERISTICS

1. What grades does your school include? Check the one which most closely describes your school.

☐ (1) Gr. 1 to 6
☐ (2) Gr. 1 to 8
☐ (3) Gr. 1 to 9
☐ (4) Gr. 1 to 11
☐ (5) Gr. 1 to 12
☐ (6) Gr. 7 to 9
☐ (7) Gr. 7 to 12
☐ (8) Gr. 9 to 12
☐ (9) Gr. 10 to 12

2. How many full-time teachers are there in your school? Include yourself as principal in the total.

☐ (1) 4 or fewer
☐ (2) 5 to 9
☐ (3) 10 to 14
☐ (4) 15 to 19
☐ (5) 20 to 24
☐ (6) 25 to 29
☐ (7) 30 to 39
☐ (8) 40 to 49
☐ (9) 50 or more

3. How many of the teachers included in (2) have been teaching in this school for less than one full year? Check only one.

☐ (1) One or more
☐ (2) Two
☐ (3) Three
☐ (4) Four
☐ (5) Five
☐ (6) Six
☐ (7) Seven
☐ (8) Eight
☐ (9) Nine or more

B. ADMINISTRATIVE CHARACTERISTICS
(Check one response for each question)

7. Counting the present school year, what is the total years of experience you have had as principal?

☐ (1) 1 year
☐ (2) 2 to 3 years
☐ (3) 4 to 6 years
☐ (4) 7 to 9 years
☐ (5) 10 to 12 years
☐ (6) 13 to 15 years
☐ (7) 16 to 18 years
☐ (8) 19 to 20 years
☐ (9) 21 years or more

8. How long have you been principal of this school, including the present year?

☐ (1) 1 year
☐ (2) 2 years
☐ (3) 3 or 4 years
☐ (4) 5 or 6 years
☐ (5) 7 or 8 years
☐ (6) 9 to 10 years
☐ (7) 11 to 15 years
☐ (8) 16 to 20 years
☐ (9) 21 years or more

9. Your sex:

☐ (1) Male
☐ (2) Female

10. What is your age?

☐ (1) Under 24 years
☐ (2) 25 to 29 years
☐ (3) 30 to 34 years
☐ (4) 35 to 39 years
☐ (5) 40 to 44 years
☐ (6) 45 to 49 years
☐ (7) 50 to 54 years
☐ (8) 55 to 59 years
☐ (9) 60 years or over

11. How many years of training are you credited with for salary purposes? Please drop fractional years.

- .(1) 1 year
- .(2) 2 years
- .(3) 3 years
- .(4) 4 years
- .(5) 5 years
- .(6) 6 years

12. How much graduate work have you done in educational administration?

- .(1) No graduate university courses in administration
- .(2) Some courses in administration
- .(3) Hold a graduate degree in educational administration.

APPENDIX C

PRINCIPAL'S QUESTIONNAIRE B

CSA CLIMATE CLINIC--PRINCIPAL'S QUESTIONNAIRE

School Code _____

1. (a) Did this school participate in the 1964 C.S.A. clinic on organizational climate?

YES _____ NO _____

- (b) Were you the principal of this school last year (1963-64)?

YES _____ NO _____

IF THE ANSWER TO EITHER OF THE ABOVE QUESTIONS IS NO, PLEASE OMIT THE FOLLOWING QUESTIONS. IF YOU HAVE ANSWERED YES TO BOTH QUESTIONS, PLEASE RESPOND TO THE FOLLOWING ITEMS.

2. (a) Did you present information from the 1964 clinic concerning the organizational climate of your school to your staff?

YES _____ NO _____

- (b) If so, in what particular manner was this done--staff meetings, informal discussions, bulletins, etc?

- (c) Approximately how much time did you spend on such activities? (To the nearest hour)

_____ hours

3. (a) Did you undertake any activities in an effort to change the organizational climate of the school?

YES _____ NO _____

- (b) If so, what activities were undertaken?

4. (a) Did you attempt to modify your own behavior in an attempt to change the organizational climate of the school?

YES _____ NO _____

(b) If so, what modification was attempted?

5. (a) In your opinion, are there any other factors or circumstances which may have influenced the organizational climate of your school in the past year?

YES _____ NO _____

(b) If so, please outline the factors involved.

6. Please provide any other information which you believe might account for possible similarities or differences in the results of the two climate surveys undertaken in your school.

APPENDIX D

LETTERS TO THE PRINCIPALS

DEPARTMENT OF EDUCATIONAL ADMINISTRATION
University of Alberta, Edmonton
and
COUNCIL ON SCHOOL ADMINISTRATION

February 24, 1965

Dear Colleague:

RE: Organizational Climate Survey

Our records show that you registered for the above named CSA project and that a set of questionnaires was mailed to your school. However, to this date we have not received the completed questionnaires. We would very much like to include your school in the analysis which is being carried out but unless we receive the questionnaires within the next few days, it will not be possible to do so.

If you can return the completed questionnaires to the undersigned by March 2nd, it is likely that we will be able to process them before the March conferences. If the questionnaires reach us after that date, we will probably not be able to analyze them until after the conferences. In any event we would prefer to have you return completed rather than blank questionnaires.

If you have returned your questionnaires in the past few days, please disregard this letter. We hope to see you at the March conference.

Yours sincerely,

E. Miklos

DEPARTMENT OF EDUCATIONAL ADMINISTRATION
University of Alberta, Edmonton,
and
COUNCIL ON SCHOOL ADMINISTRATION

February 26, 1965.

Dear Colleague:

RE: 1965 Organizational Climate Clinic

You may be interested to learn that nearly two hundred schools have registered for the organizational climate survey this year; of this number, approximately seventy are participating for the second year. If our records are correct your school should be included in this group. As you probably know, we were particularly interested in obtaining the participation of schools such as yours for the purpose of collecting data concerning the stability of the scores which the climate questionnaire yields. Since you were kind enough to participate, we will be able to carry out the necessary analysis; however, we are just now beginning to face the problem of interpreting the results.

To assist us in this we have some information about factors which may have influenced the climate of your school in the intervening year. For this reason we are forced to impose further upon your interest in this project by requesting that you respond to the questions on the enclosed form. We recognize that you have already spent a considerable amount of time and effort on this project, and so we have kept the questions down to a minimum. However, these are highly important if we are to draw meaningful conclusions from our analysis.

Kindly return the completed questionnaire in the enclosed envelope at your earliest convenience. Information obtained will be completely confidential; the school code number is for identification purposes only.

Thank you for your cooperation; we hope to see you at the conference next month.

Yours sincerely,

E. Miklos
Conference Director

B29848